

**MILWAUKEE COUNTY AUTOMATED MAPPING
AND LAND INFORMATION SYSTEM**

Sixty-Eighth Steering Committee Meeting

AGENDA

DATE: Tuesday, August 22 2006

TIME: 9:00 a.m.

PLACE: Milwaukee County City Campus
2711 W. Wells Street
Room 349
Milwaukee, Wisconsin

I. Roll Call

II. Meeting Minutes

Consideration of the minutes of the 67th Steering Committee meeting held July 11th, 2006.

III. Reports

A. Report by MCAMLIS Staff on the status of the Milwaukee County Land Information Plan approval by Wisconsin Department of Administration.

B. Report by Milwaukee County DAS staff on MCAMLIS Budget.

IV. Old Business

A. Consideration of recommendations to budget a specific amount that the MCAMLIS fund will hold in reserve.

B. Consideration of Register of Deeds spending authorization request for conversion of microfiche images to digital format.

C. Consideration of Register of Deeds spending authorization request for Improvements to computerized systems.

V. New Business

A. Consideration of the next phase of the Geo Database Migration Project: Address and Street Centerline Integration leading to a Countywide Master Street and Address Guide (MSAG)

B. Consideration of a MMSD proposal to include a "fiscal note" along with MCAMLIS project funding requests.

- VI. Correspondence
 - A. Letter to Mr. Philip C. Evenson Director, Southeastern Wisconsin Regional Planning Commission from the MCAMLIS Project Manager regarding Topographic Mapping Project schedule of payments.
- VII. Date, time, and place of next meeting
- VIII. Adjournment

MINUTES OF THE 67TH MEETING
Milwaukee County Automated Mapping and Land Information System
Steering Committee

Date: Tuesday, July 11, 2006
Time: 9:00 a.m.
Place: Milwaukee County City Campus
2711 W. Wells Street
Room 349
Milwaukee, Wisconsin 53208

Members Present

Kurt W. Bauer, Chairman	Milwaukee County Surveyor
John L. La Fave, LIO	Milwaukee County Register of Deeds
Karen Gross	Supervisor, Gas Mapping, We Energies, representing John Place, Manager Maps and Records, We Energies
Gregory G. High	Director, Architecture, Engineering and Environmental Services Division, Milwaukee County Department of Transportation and Public Works, representing the Director, Milwaukee County Department of Transportation and Public Works
John M. Bennett	City Engineer, City of Franklin, representing the Intergovernmental Coordinating Council of Milwaukee County
Donald R. Nehmer	Capital Program Business Manager, Milwaukee Metropolitan Sewerage District
Nancy A. Olson	Enterprise Information Manager, Information and Technology Management Division, City of Milwaukee
Michael Compton	Fiscal Management Analyst, Administration & Fiscal Affairs, Milwaukee County Department of Administrative Services, representing Linda J. Seemeyer, Director, Milwaukee County Department of Administrative Services
Kevin S. Anderson	Design Area Manager, Milwaukee Metro North SBC Ameritech-Wisconsin

Members Absent

Donald L. Coe	Supervisor, Facilities Location, Customer Operations, We Energies
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Guests and Staff Present

Marcia Lindholm	City of Milwaukee, DPW Division of Infrastructure Services
Tammy Bronson	City of Milwaukee, Information and Technology Management Division
Fredy Canales	City of Milwaukee, DPW Division of Infrastructure Services – Sewers

Greg Hotson	City of Milwaukee, DPW Division of Infrastructure Services – Sewers
Reinhard G. Meishner	HRG Technology
David Baraniak	HRG Technology
Gary Drent	Fiscal and Budget Manager, Milwaukee County, A,E & ES DTPW
Kathleen A. Bach	Milwaukee County Register of Deeds Office
Kevin Bruhn	Milwaukee County DTPW
William C. Shaw	MCAMLIS Project Manager, Milwaukee County DTPW

Note: This meeting was recorded and the audio is downloadable in Microsoft Windows Media Player .wpm format. To assist the listener, items discussed in the minutes are referenced to a timestamp (hr:min:sec) to aid in locating the related topic on the audio file.

I. Roll Call, (0:0:17)

The sixty-seventh meeting of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee was called to order by Chairman Bauer at 9:00 a.m. Roll Call was taken by circulating an attendance signature sheet and a quorum was declared present.

II. SPECIAL ORDER OF BUSINESS, (0:00:30)

INTRODUCTION OF WILLIAM C. SHAW, MCAMLIS PROJECT MANAGER

G.High: As introduction, stated that Mr. Shaw brings to this job many years of GIS experience, along with having served on the MCAMLIS Steering Committee in various capacities for over 13 years. He has represented both the City of Milwaukee and WE Energies over that time. His background started at the Wisconsin Department of Natural Resources as a Chief of Technical Support and GIS mapping. He later went to the City of Milwaukee as the GIS Applications Manager and then, was at WE Energies as the GIS Mapping Manager. Most recently, he was working for GeoAnalytics as a Senior System Analyst and the County was able to bring him here to this project management position. I think he brings to the County and this Steering Committee experience, senior management, and leadership that is needed to guide this project to realize the goals and objectives set back in 1989. Other goals internally that the County expects include providing for easy access to MCAMLIS information countywide, to all the government agencies and citizens and to oversee appropriate maintenance of all the data and promote expanded use of this data internally. Welcome!

K.Bauer: Bill is familiar with the MCAMLIS work, he has contributed in major ways over the year and I'm sure this is a good appointment for the County and MCAMLIS

III. CONSIDERATION OF THE MINUTES OF THE 66TH STEERING COMMITTEE MEETING HELD FEBRUARY 7TH, 2006, (0:3:24).

**J.Bennett: Motion: to approve the minutes.
Second G.High, Motion carried, Unanimous**

G.High: asked, if the taped audio of the meetings are available on the web?

W.Shaw: stated that was correct, the tapes were reformatted into a digital audio and they are now accessible on the County's Land Information webpage along with meeting minutes and materials.

IV. REPORTS, (0:8:46)

IV(a). REPORT BY MCAMLIS PROJECT STAFF ON THE STATUS OF STREET ADDRESS AND CADASTRAL MAP MAINTENANCE, (0:8:51)

K.Bach: reported on the status of cadastral and address maintenance. She explained that the cadastral data is updated through May 1, 2006, that she is currently working on documents received in May and June and that there is no backlog. The status map for address maintenance showed areas 'in yellow' are current through June, areas 'in gray' are current through 2005 with the exception of Whitefish Bay, which was recently received

W.Shaw: noted that examples were on hand for members and guests to view the final cadastral product and they were welcome to compare these to the earlier hand drafted products.

J.Bennett: reasoned that if he could access these maps via the internet and that if this were possible, he could lower costs related to maintaining two sets of maps and fees charged by the county for copies of their maps.

J.LaFave: agreed that he and Mr. Bennett should discuss this, since this was the overall goal he was pursuing.

K.Bauer: stated that the minutes will show the reports have been accepted and place on file and attached to the minutes.

IV(b). REPORT BY MCAMLIS PROJECT STAFF ON THE STATUS OF THE CADASTRAL DATABASE MIGRATION PROJECT, (0:12:16)

W.Shaw: reported the status of the database migration project to the new standard database format. He stated that the project has been successfully completed and that the county is now currently maintaining property data for all of the suburban communities. He added that the County and the City of Milwaukee were coordinating their activities via Nancy Olson and her staff with regard to implementing the maintenance of compatible property data countywide.

N.Olson: added that the agreement that was approved by the committee authorizing her to maintain the City of Milwaukee's cadastral maps using the same geo database format as the County is moving forward and that she has brought a staff person on board to do this. She then introduced Tammy Bronson as the GIS Analyst that was recently hired.

K.Bauer: directed that the minutes should show the reports are accepted and are placed on file.

IV(c). REPORT BY MCAMLIS PROJECT STAFF ON THE STATUS OF THE MILWAUKEE COUNTY UPDATE TO THE 2005 LAND RECORDS MODERNIZATION PLAN, (0:15:24)

W.Shaw: directed the committee to consider pertinent items included in the meeting materials. He went on to say that the reason that the plan was now being updated was due to an administration change whereby each county is required to update their individual plans and the updated plans are to conform to a specified format. As such, the State Department of Administration(DOA) has requested that all counties, to remain eligible to retain document recording fees, submit in the specified format an updated plan. Further, the updated plan would be effective for the period years 2005 through 2009.

He added that, each county is required by statute to have an approved plan on file with the state to remain eligible to collect the recording fees and further recommended that the committee consider the plan, as submitted, for it's approval at this same meeting.

He continued, and noted that a memo was included in the meeting materials to aid the committee in identifying changes in the current plan and this would be useful in the committee's review and comparison of changes to the previous plan.

During this period of the report, Mr. Shaw read through a portion of the 'Notice of Change' memo.

K.Bauer: interjected that he assumed that as Mr. Shaw continued that unless there were comments/requests for changes that the committee was in accord with what is presented.

W.Shaw: reached section 'Land Information Plan Goals and Objectives' where he noted that he had substantially removed language specific to methods used in the compilation and maintenance of topographic and cadastral work products.

N.Olson: asked if this section could reference the previous Land Records Modernization Plan and it's detail?

K.Bauer: Noted that this would be helpful as the program from time to time comes under scrutiny by the County Board and others.

SECRETARY'S NOTE: based on input from the committee the "Milwaukee County Land Information Plan Section II: Land Information Plan: page 5, paragraph 1" has been revised. The revised text is as follows:

..... Methods and procedures that were detailed in earlier Milwaukee County plans have been incorporated into standard practice and are no-longer fully articulated as part of the current plan. These earlier plans, dating back to 1990, provide a complete documenting of the foundational elements addressed by the MCAMLIS project and may be obtained from the MCAMLIS Project Manager.

W.Shaw: continued on to page 6, where he noted, removal of all references to "Smart Growth".

J.LaFave: concurred, with this, and added that a report prepared by the Milwaukee County Corporation Counsel presented an earlier opinion that "Smart Growth" legislation had no bearing on the activities of MCAMLIS.

K.Bauer: cautioned, that MCAMLIS had funded the Regional Water study on the basis of specific language, in the plan, related to the "Smart Growth" program.

W.Shaw: offered that he included re-structured language taking out specific references to "Smart Growth" but had retained language that was similar and, in his opinion, as comprehensive.

K.Bauer: complimented Mr. Shaw for summarizing the changes to the plan for the committee and added that the director of the Regional Planning Commission had requested that he ask the committee to consider the inclusion, to the plan, the future possibility of creating a project for scanning and indexing County Surveyor plat records that private surveyors must file with the County Surveyor.

N.Olson: suggested, that on page 6, item number 10 that language could be broadened to provide for automating various records e.g., County Surveyor plat records.

J.LaFave: concluded that the language should also be more inclusive e.g., stakeholders, would allow for utility interests as well.

K.Bauer: agreed and stated that he would entertain a motion to approve the plan, as is, with the inclusion of the suggested amendment.

J.LaFave: moved, adoption of the plan with the proviso that that the amended language be finalized at this meeting.

D.Nehmer: suggested that similar language as provided on pg. 6, item 7, be added to item 10, on the same page.

J.LaFave: asked, whether we would be adding a specific goal (to address County Surveyor Plats) as part of the plan approved by this committee.

N.Olson: added that rather than be specific, perhaps insert a reference to automation and scanned images in lieu of a goal just for surveyor plats.

K.Bauer: disagreed, Phil (Evenson) has requested wording that would be specific in the event that a project was brought before the committee and therefore would not require an amendment to the plan.

J.LaFave: observed that, stating it, "as a goal" doesn't necessarily require the committee to follow through.

K.Bauer: agreed, and added that as a placeholder, if determined to be necessary, could be considered without having to amend the plan.

W.Shaw: suggested, incorporation of the language included on item 7, pg. 6 regarding who may submit proposals along with expanded language regarding automation and various technologies be added to item 10.

D.Nehmer: declared that he wanted to make sure that the utilities were not excluded from being able to initiate projects that maybe useful.

N.Olson: asked if it was appropriate that we would entertain, for example, projects that may be initiated by the State?

K.Bauer: stated that there is nothing that can be done without this committee's approval and, that as a general matter, there may be things e.g., updating the Wetland maps that would be a State initiative that would be useful to everybody. He then concluded that it was appropriate that the first sentence in 10 would be like the first sentence in 7 and asked if the committee was ready to proceed with a motion?

**J.LaFave: Motion: To approve the plan as amended.
Second J.Bennett, Motion carried, Unanimous**

SECRETARY'S NOTE: The Milwaukee County Land Information Plan Section II: Land Information Plan, Sub-section A: Goals And Objectives, list item 10: page 6, paragraph 1 has been revised. The revised text is as follows:

Where appropriate, identify, initiate, and complete projects proposed by Milwaukee County or it's *local units of government, agencies of the federal, state or regional government, public utilities and by private entities, including, importantly, interested citizens* which would, *by understanding of the MCAMLIS Steering Committee*, prepare information and maps useful for meeting the needs of the County and its municipalities and contributing toward the implementation the Wisconsin Land Information Program. *Consideration of projects initiated under this objective would likely include, but would not be restricted to, diverse technologies and collaborative efforts e.g., those that may be required to scan and index County Surveyor plat records or as may be required to perform field data collection leading to improvements in the compilation of countywide land information asset inventories.*

SECRETARY'S NOTE: The Milwaukee County Land Information Plan Section II: Land Information Plan, Sub-section C: New Initiatives, list item 10: page 11-12, paragraph 1 has been revised. The revised text is as follows:

Where appropriate, identify, initiate, and complete projects proposed by Milwaukee County or it's *local units of government, agencies of the federal, state or regional government, public utilities and by private entities, including, importantly, interested citizens* which would, *by understanding of the MCAMLIS Steering Committee*, prepare information and maps useful for meeting the needs of the County and its municipalities and contributing toward the implementation the Wisconsin Land Information Program.

IV(d). REPORT BY SEWRPC STAFF ON THE STATUS OF MCAMLIS TOPOGRAPHIC MAPPING PROJECT, (0:51:36)

K.Bauer: reported that all the orthophotography files have been delivered to Milwaukee County for distribution. He added that the actual preparation of maps except for a 1.6 mile square area along the south line of townships concerned have been completed and submitted to the commission for review. These have been reviewed and revised files have been returned to the Commission. Approximately 23.8 sq. miles have been accepted with the balance under staff review. The review process is expected to be completed by the end of 2006. Mapping for township 7 range 21 East Township 7 North 922 East with the exception of Marquette Interchange reconstruction project is underway and should be received for staff review within the next 60 days A portion that includes the Marquette Interchange will be completed later and at that time the Committee may want to also consider expanding that area to include the new Canal Street project out to the County Stadium. The mapping for the remaining portion of the County is also under way including a 30.6 sq mi. portion located in township 5 north in the City of Franklin with all the work to be completed by June 30, 2007 except for the Marquette Interchange. Mr. Bauer then concluded by indicating that he expected that the schedule will be met.

D.Nehmer: asked about the process of obtaining this data for MCAMLIS members?

K.Bauer: replied that as a participant in the MCAMLIS Project it is available either at no cost or the cost of reproduction and to contact the MCAMLIS Project Manager directly regarding this data.

W.Shaw: added that because it is a MCAMLIS project, that he currently makes distributions to members on a request basis and as new products are made available at no charge to members of the MCAMLIS Steering Committee.

N.Olson: asked if it would be possible to obtain these files through access to a County FTP site? This would allow members and others to download the data themselves rather than incurring the cost of preparing special media.

K.Bach: agreed and added that it seemed like an excellent idea.

W.Shaw: stated that he could look into whether the capability exists or if it would need to be created and how members could obtain access.

K.Bauer: recommended that Mr. Shaw provide a response to this question via a Secretary's note and include this along with the minutes to this meeting.

SECRETARY'S NOTE: Regarding the possibility of supporting access to MCAMLIS Digital Products via use of a File Transfer Protocol (FTP) site.

MCAMLIS staff has made a request to have Milwaukee County IMSD investigate providing FTP access to the existing GIS Fileserver containing MCAMLIS files e.g., orthophotography, topographic and cadastral files in native format. Their initial response was positive but that security and performance would need to be further evaluated. It was also suggested that perhaps access to these files for at least the City of Milwaukee could be engineered through an existing connection between the City and the County. Staff will report progress on this initiative as more becomes known in the future.

W.Shaw: requested that Mr. Bauer provide clarification with regard to the topographic mapping delivery schedule. He stated that the original delivery schedule included the northern half of Milwaukee County and was due June 2006. He concluded, based on the report given, that this was now being moved to December 2006 and would include a significantly smaller portion of Milwaukee County.

K.Bauer: stated that he was unaware of adjustments to the schedule as presented and that he would consult with SEWRPC staff and would provide the committee a revised status report reflecting current status and changes to the project schedule if these were not part of the original Agreement.. He then requested that the minutes show that the report on the topographic mapping be accepted by the committee and placed on file with the response in the form of a secretary's note regarding the issues raised by Mr. Shaw.

SECRETARY'S NOTE: SEWRPC Staff Memorandum to the MCAMLIS Steering Committee dated July 20, 2006, SUBJECT: STATUS OF THE MCAMLIS 2005-2006 TOPOGRAPHIC MAPPING PROJECT and attached to these minutes.

The attached revised status report provides a map showing the current status of the Topographic Mapping Project. In addition, the report explains that the original project schedule was amended in early 2005 to accommodate the Regional Orthophotography Project. The changes to the schedule were undocumented but agreed to through intergovernmental negotiations among the regional project participants and included representation from Kevin White, the then, MCAMLIS Project Manager.

IV(e). REPORT BY SEWRPC STAFF ON THE STATUS OF SEWRPC REGIONAL WATER STUDY, (1:04:40)

K.Bauer: noted that a memorandum was included in the meeting materials and asked if there were any questions? Hearing none, he directed that the minutes show that the report was accepted and to be placed on file.

IV(f). REPORT BY SEWRPC STAFF ON THE STATUS OF MCAMLIS FLOOD LAND MAPPING PROJECT, (1:05:33)

K.Bauer: noted that there were two memorandums prepared by the commission staff and included in the meeting materials. Mr. Bauer directed the Committee's attention to an area in the report explaining why the completion date for Phase 1 is being set back a year. Noting that, the revised scheduled completion date has been moved from December 31, 2006 to December 31, 2007. Mr. Bauer, further stated that the delays were caused by numerous out of sequence data and system work requests made by local municipalities. These requests require the Commission staff to

be redirected away from normal work practice, for example the City of Milwaukee requested that the Lincoln Creek watershed be submitted to FEMA. He added that these are being done for good reason since the work performed can save substantial amounts of money through the reduction in federal flood insurance payments. He went on to name numerous projects that are or have been requested and ended by stating that "what you have here is a situation where the current planning is taking some precedence to completing the original flood land mapping project".

N.Olson: wanted to know if there was a budgetary impact related to this additional work?

K.Bauer: replied, no and that SEWRPC is committed to completing the project within the original MCAMLIS funding.

J.Bennett: asked, if these maps will be available as they're completed?

K.Bauer: answered, yes, they are being prepared in a manner to be used as the standard FEMA flood plain maps and to contact Mike Hahn for further information.

G.High: noted, that the 2nd report states that, "significant re-allocation of staff to SEWRPC engineering" on page 3, second paragraph. He then asked, if this means that there is a re-allocation of SEWRPC engineering staff from other projects to the Regional Water Quality Management Plan along with the loss of a number of positions. Leading to asking, "What is this Regional Water Quality Management Plan?"

K.Bauer: responded, that is the plan that is being developed in cooperation with the district. The Federal Water Pollution Control Act requires that Metropolitan areas adopt an area water quality management plan. The original plan was adopted in July 1979 and was approved by the DNR as well as the seven county boards and the district. The district is now updating the 2008 the water quality management plan in conjunction with a new facilities plan. These plans specify the level of water quality that has to be met in the streams and in Lake Michigan and how they are going to achieve those objectives. He then asked, if there were any further questions on the Phase 2. Hearing none, he asked that the minutes show that the report was accepted and placed on file.

IV(g). REPORT BY WE ENERGIES STAFF ON THE STATUS OF THE DIGGER'S HOTLINE PROTOTYPE STUDY,(1:17:06).

R.Meishner: stated that he was here today representing John Place from We Energies who was unable to be here today. This report concludes the analysis phase and makes final recommendations related to an earlier proposal to establish a set of standards for the developers and the surveyors to adopt and present certain information to Diggers Hotline. He then reported that:

The overall objective of this project is to improve the time frame from when a plat or a subdivision has been approved at the municipality and the time Diggers Hotline is able to incorporate that into their database. The solution really came down to something rather simplistic and that is to have the approved platting information copied and routed to the MCAMLIS GIS technician, Kathy Bach and she would, in turn, put that into a standard format that would be used to update the Diggers Hotline database. Testing the process using existing plats obtained from the City of Franklin and from the Village of Brown Deer established that it was possible to, convert the plats and then run them through the translation process. We then established that we were able to add the required information to the diggers hotline database without problems.

After meeting with the City of Milwaukee, we were able to establish that, at least temporarily, the process would work the same way, thus it was agreed, that the City of Milwaukee could route information to Kathy, and Kathy could then incorporate this into the data and route that to Diggers Hotline.

M.Lindholm: verified to the Committee, that the platting process that is followed within the City, is different from any other municipality because of the unique characteristics of the City of Milwaukee. She added, that the City doesn't get many of these, probably a half dozen subdivision plats a year and roughly 110 CSM's.

R.Meishner: continued, by stating that the next step is to take this solution to Diggers Hotline and obtain their agreement on the proposed solution for updating their database. Following that, requires that he along with Diggers Hotline and the utilities will need to visit each municipality and provide them with an update. He noted that the MCAMLIS Project Manager indicated that MCAMLIS wants to be part of the meetings with municipalities.

J.Bennett: suggested that a model ordinance be prepared prior to meeting with the municipalities. He added that each municipality would require a digital copy be filed with a final plat and the City/Village Clerk after approval by the Common Council or Village Boards and would then transmit that to the County. He volunteered that , he would be willing to send a letter, with the model ordinance attached, to all the municipalities through ICC, requesting that they cooperate. The letter would explain how this would help and reduce cost for both the utilities and the municipalities by giving the information to Diggers Hotline.

K.Bauer: asked if there was any further discussion on the motion? Further clarifying that the motion before the Committee is to approve the report as submitted, along with a recommendation to Diggers Hotline to have a model/ordinance prepared and to work with the municipalities, making use of the ICC via Mr. Bennett's assistance.

**D.Nehmer: Motion: To approve the report as submitted.
Second N.Olson, Motion carried, Unanimous**

SECRETARY'S NOTE: The Milwaukee County Land Information Plan Section II: Land Information Plan, Sub-section A: Goals And Objectives, list item 9: page 11, paragraph 2 includes the following text related to this Diggers Hotline initiative:

Additional efforts will be undertaken to streamline the flow of materials through the Register of Deeds Office including both efforts to achieve faster throughput of material and through "redesign" of processes to provide for better integration of material handling and information handling tasks. ***Efforts will also be directed toward investigating intergovernmental cooperation initiatives e.g. Diggers Hotline***, as an example in providing better overall service to the taxpayers and citizens and to the private companies that depend upon access to the records under the responsible jurisdiction of the Register of Deeds.

IV(h). REPORT BY MILWAUKEE COUNTY DAS STAFF ON MCAMLIS BUDGET, (1:36:03)

M.Compton: stated that his report summarizes the unrestricted balances incorporating the \$1 fee and \$4 fee projects along with authorized commitments to outstanding projects. He added, that the balance sheet was pulled directly off of the County's accounting system and begins with a \$2.9 million carryover balance as of the close of 2005 fiscal year. The report accounted for all MCAMLIS revenues received thus far for 2006 that are available for both the \$1 and \$4 fee projects. This was followed by expenditure activities broken down for each fee category.

M.Compton: continuing, stating that as of the July 6th, there was a MCAMLIS balance of \$987,000. He added that the projected revenues vs. expenditures balance through the end of 2006, incorporating all the existing projects and activities currently underway for MCAMLIS would draw down this balance by \$80,000 leaving a net projected balance at the end of 2006 of \$907,000 . He then provided further detail on the remaining unrestricted balances within the authorized \$1 fee projects as well as the \$4 fee along with the remaining unpaid balances on anything that was encumbered for projects approved by the Steering Committee.

G.Drent: adding that while helping DAS put the \$4 summary together he inadvertently missed including the City of Milwaukee project that was authorized for \$75,000 at the last meeting. This would further draw down the projected balance by another \$75,000.

M.Compton: explained that in considering the unrestricted balances that by subtracting outstanding commitments provides the remaining unrestricted balances as of current date.

J.Bennett: asked for instance, by paying all the topography mapping today and having no other encumbrances whatsoever, there would be \$21,000 left is that correct?

M.Compton: replied yes, for the \$4 fee projects. Adding that it really is providing a point in time and taking a snapshot.

K.Bauer: observed that the \$21,000 didn't include the \$75,000 needed for the City of Milwaukee and that would actually put MCAMLIS in the red.

J.LaFave: noted that only half of the \$75,000 would be required for 2006

M.Compton: reminded the Committee that this was a snapshot in time as of mid-year.

K.Bauer: observed that the implications are such that the Committee ought not be considering a lot of expensive projects right now since there also needs to be consideration of a rainy day fund. He added that unless there's disagreement, MCAMLIS doesn't have a lot of excess funds right now to be considering projects.

G.Drent: reminded, the Chairman that MCAMLIS does not pay all the bills at one time, for example, the topographic bills that are coming in, MCAMLIS will not be paying them all this year. Further, there are a couple of outstanding encumbrances that apparently would not be invoiced, so it's possible that the Committee could view the \$907,000 minus the \$75,000 as funds available for projects right now.

W.Shaw: asked how the report could show an unpaid balance of \$1.8 million for the topographic mapping project when MCAMLIS has paid over \$2.5 million dollars thus far on a \$3.2 million project? Regarding this discrepancy, he called into question the figures as presented, stating that he believed that the unpaid balance on the topographic mapping project was not more than \$670,000..

N.Olson: added that this needs to be resolved before the Committee can look at funding other projects.

K.Bauer: suggested, that the Committee may choose to not to accept the report as a way of indicating that there are questions about the substantial difference that needs to be reconciled and reported at the next meeting. Adding that, Mr. Shaw can determine if we can have another meeting in thirty days if that's necessary.

N.Olson: stated that she was uncomfortable with considering any of these other projects because they are all associated with commitments to a balance that is questionable.

J.LaFave: asked about the outstanding authorized commitment to the topographic mapping project in the amount of \$1.9 million and when that would be paid?

W.Shaw: replied that the last payment on the topographic mapping project of 10% of \$3.2 million is \$321,000 and would be due at the end of the project scheduled for July 2008. MCAMLIS is currently holding a more recent invoice for \$270,000 that hasn't been paid yet. To his knowledge, MCAMLIS has paid all of the invoices that have been presented with the exception of \$270,000.

J.LaFave: continued questioning by asking, that besides that holdback amount would there be some other invoices that we would not be receiving until next year?

W.Shaw: replied, that MCAMLIS has received the balance of the invoices for the majority of the project with the exception of the \$270,000 and the \$321,000.

SECRETARY'S NOTE: REGARDING THE CURRENT OUTSTANDING BALANCE OF THE TOPOGRAPHIC MAPPING PROGRAM.

As of 8/10/2006 there is an unpaid balance of \$679,015. The payment schedule in effect requires payments totaling \$323,390 in 2006, \$321,900 in 2007 and \$33,725 in 2008

W.Shaw: then suggested that the questions needed to be cleared up and then hold a meeting within a short time frame.

K.Bauer: agreed, stating the Committee needs to know the true amount of unencumbered funding that can be considered for future projects.

W.Shaw: adding that he thought that there needs to be consideration of cash flow related to incoming revenue as the Committee looks at unencumbered funds available to commit to projects.

J.LaFave: assessing the situation, concluded that in consideration of cash flow and balances that the report wasn't as alarming as when first looking at the figures.

J.Bennett: advanced an idea of how he would prefer to see future financial reporting. This included a projection to the end of the year that includes the amount of authorized expenditures, the amount of revenues that are projected and factoring in a conservative hold back of an agreed amount. Adding that, he thought that \$300,000 to \$500,000 of cushion is necessary but whatever amount that is decided should be shown to give the Committee a clearer picture of what is available to operate. Also stating that a snapshot in time can give the Committee a very bleak picture, therefore he is not willing to authorize more expenditures until he is comfortable with knowing where the program will be at the end of the year.

M.Compton: explained that \$907,728 is projected to be available at the close of 2006 minus \$75,000 for the city project.

J.LaFave: asked if that was the figure the Committee should look at?.

M.Compton: yes, that figure is the MCAMLIS unrestricted balance as of 2006 less the \$75,000 for the City of Milwaukee project.

J.Bennett: stated, that the Committee needs to have a better report.

K.Bauer: asked Mr. Bennett to make a motion requesting, within the next 30 days, a new report setting forth the figures providing a breakdown of the \$1 and \$4 accounts projected through 2006.

J.Bennett: added that he would like to see encumbrances for multiple year projects included in the report and shown in the years that they will be committed.

G.High: drawing attention to idea of the reserve fund balance that Mr. Bennett suggested. He pointed out that the County fiscal staff recommended the reserve amount to be 10% of the current budget revenues as appropriate. He then asked, how and when do we establish what that should be and who's recommendation are we going to decide this on?

N.Olson: Motion: Requesting, an accurate financial report showing a breakdown of the \$1 and \$4 accounts projected through 2006.

Second: J.Bennett

K.Bauer: suggested that the Committee proceed in accordance with the agenda and that the motion before the Committee is to request a revised financial report that separate the \$4 from the \$1 accounts that clearly sets forth what MCAMLIS will expend through December 31, 2006, what the revenues are expected to be by December 31, 2006 and the difference being what monies are available for additional projects in each of the accounts.

G.High: requested an answer to when the Committee will determine what the reserve fund balance is going to be?

K.Bauer: replied, that this will taken up at the next meeting.

J.LaFave: adding that with regard to the reserve fund, Emily Van Dunk made the recommendation that it be 10%. He requested that the current DAS-Fiscal staff look at this again to see if they agree.

D.Nehmer: interjected that regarding this specific motion, he had made some recommendations to the fiscal office regarding the financial report and he volunteered to help put the report together.

K.Bauer: stated that based on Mr. Nehmer's comments that the DAS-Fiscal staff should consult with the district.

Motion carried, Unanimous.

IV(i). REPORT BY MCAMLIS PROJECT STAFF ON THE STATUS OF WISCONSIN LAND INFORMATION PROGRAM YEAR 2006 GRANT APPLICATION – TRAINING AND EDUCATION GRANT AWARD, (2:06:22)

W.Shaw: reported he wanted to make the committee aware that the MCAMLIS project has submitted a grant application to the Wisconsin's State Land Information Program for a training grant in the amount of \$300.

J.LaFave: added that this has been done every year.

K.Bauer: directed that this be included in the minutes as item "I"

V. OLD BUSINESS, (2:07:15)

V(a). CONSIDERATION OF POSSIBLE MCAMLIS FUNDING FOR PURCHASE OF COUNTY-WIDE LICENSE OF PICTOMETRY'S OBLIQUE AERIAL PHOTOGRAPHY, (2:07:18)

J.Bennett: opened discussion by stating that he had been asked to attend an ICC meeting and provide a report on MCAMLIS. Ms. Olson and Mr. Shaw also attended the meeting where the ICC approved a motion requesting that MCAMLIS look at the possibility of funding a Pictometry project. He added, that a number of communities have indicated that their assessor's office and public safety departments' feel that they could really utilized it. This may be of particular interest to communities that don't have very active GIS systems because software is bundled with the photography. In his opinion, it would be worthwhile to study and he requested that the MCAMLIS staff review any alternatives their advantages, disadvantages, costs and bring a recommendation back to the Committee.

K.Bauer: addressing Mr. Bennett, asking that he make that a motion requesting staff to prepare a memorandum report on the advantages and disadvantages of Pictometry oblique photography and provide a recommendation as to what

MCAMLIS should or should not do. Adding that, in his opinion that if MCAMLIS is going to participate at all it should be on a matching fund basis to insure that beneficiaries are not simply requesting this because someone else is paying for it. Further it is his understanding that the product is relatively useless for public works and is based on bi-annual photography at a cost of \$75,00 per year.

**J.Bennett: Motion: To direct MCAMLIS Staff to prepare a memorandum in consideration of supporting the acquisition of Pictometry by the MCAMLIS Project
Second: N.Olson**

G.Drent: submitted that the County's IT department in conjunction with the Sheriff department is preparing an analysis of this, it's possible that MCAMLIS could utilize their report rather than having MCAMLIS Staff re-create it.

K.Bauer: objected to this on the grounds that he didn't think MCAMLIS should be committed to a project on the basis of the Sheriff's report because there may be conflicting assumptions, such as, the Sheriff may assume that it's free. Adding that MCAMLIS Staff could utilize the report, but thought the Committee would want it to include its own recommendation(s).

N.Olson: commenting that there are various departments in the City of Milwaukee that have been looking at this product with a great deal of interest. Adding that the Pictometry product would give some of the communities in the ICC the ability to utilize imagery even if they don't have any method to utilize the images that MCAMLIS currently provides, thus allowing them to overlay any of the MCAMLIS data on top of it and use the Pictometry software to view not only the imaging but also the GIS data.

Motion carried, Unanimous.

V(b). CONSIDERATION OF REGISTER OF DEEDS SPENDING AUTHORIZATION REQUEST FOR CONVERSION OF MICROFICHE IMAGES TO DIGITAL FORMAT, (2:14:47)

J.LaFave: requested postponing consideration of items "B" and "C" until the next meeting.

K.Bauer: agreed to table items "B" and "C" until the next meeting.

V(c). CONSIDERATION OF REGISTER OF DEEDS SPENDING AUTHORIZATION REQUEST FOR IMPROVEMENTS TO COMPUTERIZED SYSTEM.

See V(b) above

V(d). CONSIDERATION OF MCAMLIS DBE CONTRACTING, (2:15:16)

K.Bauer: stated that an additional item of old business was requested by Mr. High regarding a report on the status of the DBE contracting with respect to MCAMLIS projects. To this he reported that, with respect to, the County Surveyor function, the budgeted amount is \$77,175 and that 15% was set as the DBE target. Adding that regarding this contract an award was made to a DBE firm in the amount of \$18,765(24%) thus exceeding the goal.

Continuing his report, Mr. Bauer stated that with respect to the MCAMLIS Topographic Mapping Program, that the DBE manager submitted three names to the Commission as potential business firms that could participate: 1) Dakota Intertek Corporation, Milwaukee Wisconsin; 2) Norris and Associates, Milwaukee Wisconsin; and 3) Transmart Technologies, Milwaukee Wisconsin. Each firm was scheduled to participate in two meetings including a field visit to the photogramatic engineer's offices, where they met with the representative of Aerometric and were asked to submit proposals for parts of the work. Subsequently, there were no proposals submitted thus it is understood that this satisfies the DBE requirements with respect to the MCAMLIS Topographic Mapping Program.

NEW BUSINESS (2:17:51)

VI(a). CONSIDERATION OF THE NEXT PHASE OF THE GEO DATABASE MIGRATION PROJECT: ADDRESS AND STREET CENTERLINE INTEGRATION LEADING TO A COUNTYWIDE MASTER STREET AND ADDRESS GUIDE (MSAG), (2:18:00)

W.Shaw: opened his remarks by saying that he had included this project for discussion today as a logical extension to changes that were made regarding updates to the Milwaukee County Land Information Plan that the Committee had approved earlier at this meeting. He added that this project is meant to extend the MCAMLIS Address Database to be more comprehensive allowing for the City and suburban communities to maintain address and street centerline range information that could be useful for purposes of public safety, emergency management and in general support for Geo-coding of points of interest e.g., to a police district or fire hydrant to an address location. This particular item has

been on the MCAMLIS agenda a number of times and has a history with the Committee, it was originally proposed in 2002 and at that time, was proposed to manually field list house numbers on structures and assign addresses throughout the Milwaukee County. Later in July 2003, MCAMLIS project staff submitted a proposal to the Committee with an estimated cost of \$142,000. This proposal was intended to allow the compilation of a comprehensive set of addresses and street centerlines for the City and the County but, at the time, lacked some features that could make it a technologically viable solution. What is being proposed here is to include the scope of the original Enhanced Address Project that was tabled in 2003, leverage both MCAMLIS and the City's use of the ESRI Geo Database technology which is now the MCAMLIS standard, add local community Intranet access and maintenance capabilities and finally approach this critical task in a way that will support address needs countywide.

J.Bennett: asked if this would include the request to MCAMLIS from North Shore dispatch? Adding that, in his view, this could be viewed as similar to the Diggers Hotline Project where communities are not using MCAMLIS mapping for dispatching, that he was aware. Further adding that, communities now use AT&T phone location information for dispatching because the call originates at the utility. The idea would be to adapt MCAMLIS mapping to align with the automatic enhanced 911 dispatching systems such that they could use our mapping for dispatching and would be compatible with the addresses provided by the telephone company.

W.Shaw: explained that there are technological hurdles that would be involved e.g., North Shore Communities use different types of dispatching system then, say, the City of Milwaukee does, but nonetheless the comprehensiveness of this project would take into account those requirements. Whether or not MCAMLIS addressing capabilities are adopted by those communities it certainly would be available for any of the communities to make use of. Noting that it may be best is to take this up when the committee has a opportunity to go forward on the project itself after the financial picture is cleared up.

K.Bauer: offered that the Committee table this now and take it up at the next meeting. He added that it is clear that this is an important proposal and one that will deserve careful consideration and, if the financial situation permits, should be funded.

VI(b). CONSIDERATION OF PARTIAL MCAMLIS FUNDING FOR A USGS PROPOSED COUNTYWIDE 2007 ORTHOPHOTOGRAPHY, (2:24:28)

W.Shaw: explained that this proposal requires the Committee's approval to provide partial funding (\$4,000) for countywide orthophotography to be completed in 2007. Adding that, this would be color, 12" resolution and that the majority of the funding is obtained from Homeland Security funds that are channeled through the National Geospatial Intelligence Agency(NGA) and USGS. These agencies are cooperating regionally with SEWRPC and have arrived at a plan to provide the majority of funds required to complete this project. After making some minor adjustments to the original coverage area the cost for Milwaukee County to include an additional 26 sq. mi. would be \$4,030, Ozaukee would be 154 miles and nearly \$24,000 and Waukesha would 82 sq mi for an additional \$12,000.

K.Bauer: added that he understood that Milwaukee County would be getting orthophotography free for the rest of the county from the USGS program.

**K.Bauer: Motion: to approve partial funding for the USGS proposal to complete 2007 Orthophotography in Milwaukee County
Second: J.Bennett, Motion carried, Unanimous.**

K.Bauer: in response to and inquiry by Ms. Olson added that the Commission expects that the in the future the orthophotography program will be continued on a 2.5 year cycle instead on the current 5 year cycle.

VII. CORRESPONDENCE, (2:27:40)

There is no correspondence to consider

VIII. DATE, TIME, AND PLACE OF NEXT MEETING, (2:28:55)

Date: Tuesday, August 22, 2006

Time: 9:00 a.m.

Place: Milwaukee County City Campus
2711 W. Wells Street
Room 349
Milwaukee, Wisconsin 53208

IX. ADJOURNMENT (2:30:40)

J.Bennett: Motion in order to adjourn

Second: N.Olson, Motion carried, Unanimous.

Meeting is adjourned

Respectfully submitted,

William C. Shaw
MCAMLIS Project Manager

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607 •

TELEPHONE (262) 547-6721
FAX (262) 547-1103

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MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: July 20, 2006

SUBJECT: STATUS OF THE MCAMLIS 2005-2006 TOPOGRAPHIC MAPPING PROJECT

Introduction

The Agreement between the MCAMLIS Steering Committee and the Southeastern Wisconsin Regional Planning Commission (SEWRPC) governing this project was executed on December 22, 2004, and work on this project has been underway since January 2005.

Orthophotography

Aerial photography acquired in 2004 for Township 8 North, Ranges 21 East and 22 East, was processed during the first calendar quarter of 2005. All aerial photography required for the balance of Milwaukee County was obtained during March and April, 2005, and the processing of this aerial photography was completed by June 30, 2005.

As of June 30, 2006, all of the digital orthophotography files had been delivered to the SEWRPC for its review. All of these files have now been reviewed and accepted by SEWRPC staff as meeting the specifications governing the work, and all of these files have been delivered to Milwaukee County for distribution and use.

Topographic Mapping

The digital topographic mapping portion of this project is underway. The completion status of this mapping is shown on Exhibit A attached.

Except for an area of 1.6 square miles along the south lines of the Townships concerned, the mapping for the approximately 53.1 square mile area comprised of Township 8 North, Range 21 East and Township 8 North, Range 22 East, has been completed by the contractor and submitted to SEWRPC; SEWRPC staff have completed editing of the draft maps, returned the draft maps with comments to the contractor for needed revisions; and the revised files have been returned to SEWRPC. About 23.8 square miles of this mapping have been accepted by SEWRPC staff as meeting editing map requirements, with the balance in this area still under staff editing. Completion of the editing of the balance of this area of the County is currently expected to be completed by August 31, 2006. Field review of the mapping for these two townships is expected to be completed by December 31, 2006. The contractual completion date for this tier of townships is July 1, 2006.

The digital topographic mapping for Township 7 North, Range 21 East and Township 7 North, Range 22 East, with the exception of the Marquette Interchange Reconstruction Project Area, is underway and is expected to be submitted to SEWRPC staff for its review by September 30, 2006. All office and field reviews for this tier of townships is also expected to be completed by December 31, 2006. The contractual completion date for this tier of townships is also July 1, 2006.

The digital topographic mapping for the remaining portions of the County (Township 5 North, Range 21 East, Township 5 North, Range 22 East and Township 5 North, Range 23 East; and Township 6 North, Range 21 East and Township 6 North, Range 22 East) are also underway. A 30.6 square mile portion of this mapping located in the Southwest portion of Township 5 North, Range 21 East -- was recently submitted to SEWRPC by the contractor and is currently undergoing staff review.

The Agreement between the MCAMLIS Steering Committee and the SEWRPC calls for all of the work covered by the Agreement to be completed by June 30, 2007. At this time, there is no reason to believe that this schedule will not be met.

Revised Delivery Dates

The foregoing status report indicates that the delivery to MCAMLIS of finished topographic maps for two tiers of Townships – Townships 7 and 8 North, Ranges 21 and 22 East – will be delayed by six months from the contractual delivery date of July 1, 2006, to December 31, 2006. The finished topographic maps for the remainder of the County are expected to be delivered by the Commission to MCAMLIS by the contractual date of June 30, 2007. The six month delay in the delivery dates concerned was the result of an agreement reached in early 2005 between the Regional Planning Commission and the Land Information Officers of the seven counties comprising the Southeastern Wisconsin Region.

The MCAMLIS topographic mapping project in 2005 was being conducted simultaneously with a regional orthophotography project. In the past, such orthophotography projects were funded substantially by the Wisconsin Department of Transportation (WISDOT) using Federal Highway Administration funds allocated to the Milwaukee urbanized area. As arrangements were being completed in the late winter of 2004-2005 for the conduct of the regional orthophotography project in the spring of 2005, the Regional Planning Commission and the seven county Land Information Officers concerned were informed by WISDOT that the Federal funds would not be forthcoming. This meant that the group had to find another way to fund the orthophotography project. Since Milwaukee and Waukesha Counties had major, county funded, topographic mapping efforts underway, it was agreed by the Land Information Officers of those two counties that the photography to be obtained under the county funded topographic mapping efforts could be used also for the regional orthophotography project. A remaining funding gap was filled by the U.S. Geological Survey (USGS) which used Federal Homeland Security funding and by the WISDOT District Office, which used State project funding for this purpose. Both Milwaukee and Waukesha Counties were given proportionate financial credits from the USGS and WisDOT funds in return for use of the photography. This agreement allowed the 2005 regional orthophotography project to proceed and to be completed on schedule.

The agreement, however, required a reordering by the contractor of the MCAMLIS topographic mapping work. Normally, orthophotography for an area is prepared following the preparation of topographic maps for the area; the topographic mapping and associated digital terrain models being used to provide both horizontal and vertical survey control for the preparation of orthophotography. The agreement concerned, however, required the contractor to prepare the orthophotography first, utilizing monumented horizontal and vertical control survey data provided by MCAMLIS. This necessitated the revision of the delivery

dates specified in the contract governing the MCAMLIS topographic mapping project. The agreement concerned was arrived at through intergovernmental meetings and negotiations, and unfortunately, was not documented. This lack of documentation was necessitated by the pressure of time involved in completing the necessary arrangements before the 2005 spring aerial photography season. The MCAMLIS project manager, Mr. Kevin White, was a party to the negotiations and agreement.

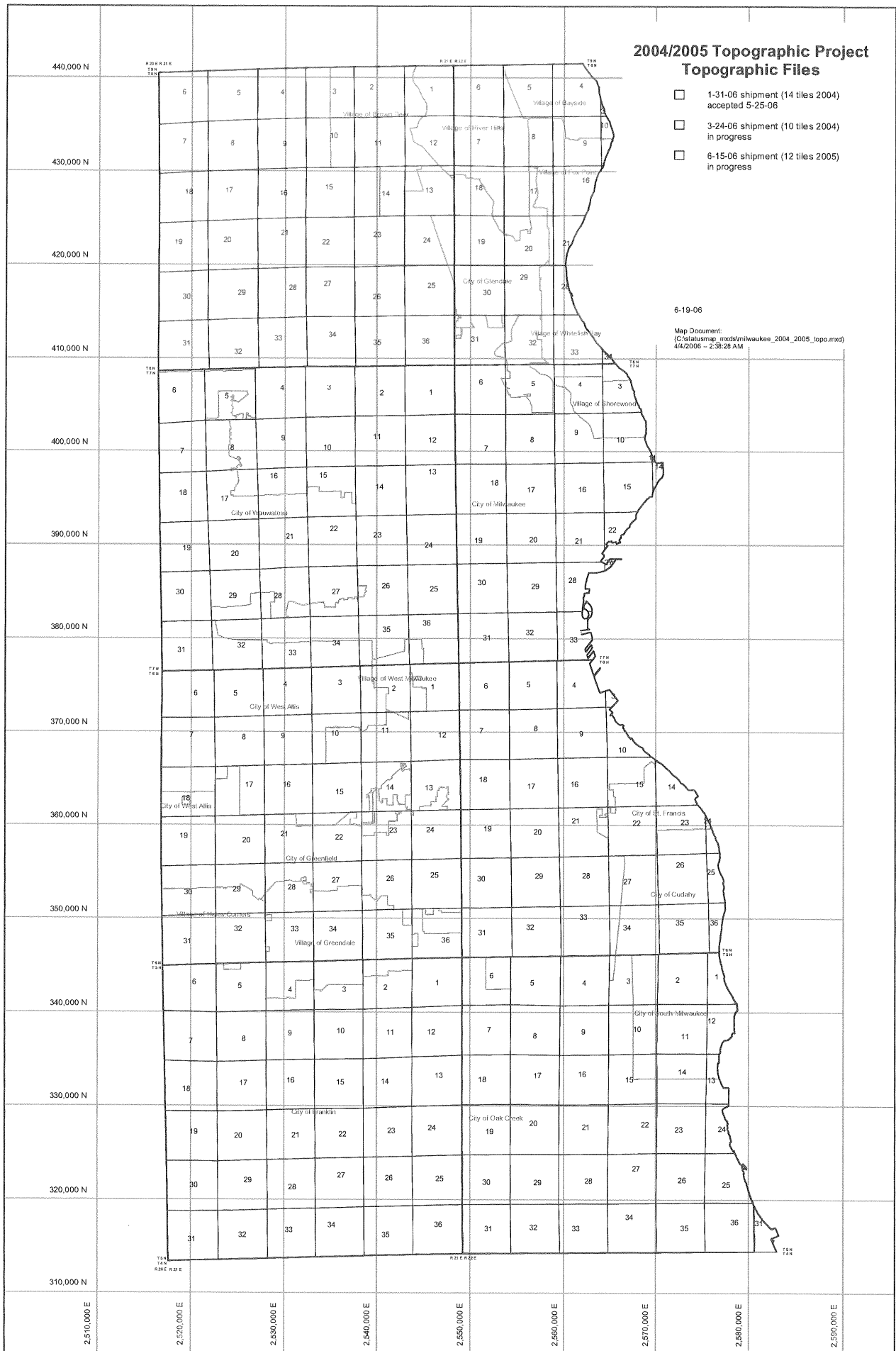
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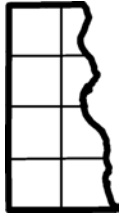
KWB/lgh

#119252 V1 - Status Of Mcamlis Mapping Project 6/06

Enclosure

Exhibit A





MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Department of
Transportation and Public Works
2711 West Wells Street, Room 427
Milwaukee, Wisconsin 53208-3509
Telephone (414) 278-2176
Fax (414) 223-1982

August 1, 2006

Mr. Mike Friis, Leader
Resource Policy Team
DOA/DIR 10th Floor Admin. Bldg.
101 East Wilson Street
Post Office Box 8944
Madison, WI 53708-8944

Dear Sir:

On behalf of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee and on behalf of the Milwaukee County Land Information Officer, Mr. John La Fave, please find enclosed herewith a copy of the "MILWAUKEE COUNTY UPDATE TO LAND RECORDS MODERNIZATION PLAN: 2005." This plan was approved by action of the MCAMLIS Steering Committee at its meeting held on July 11, 2006

We trust that, as may be necessary, the Wisconsin Land Information Program will be able to review for approval this countywide plan as specified in Wis. Stat. Sec 16.967(3)(e) and place it on record as meeting Milwaukee County's required update to its countywide land information plan as set forth and prepared under Wis. Stat. Sec 59.72(3)(b). Should you have any questions or comments in this regard, please do not hesitate to contact us.

Sincerely,

William C. Shaw
MCAMLIS Project Manager

encl: MILWAUKEE COUNTY UPDATE TO LAND RECORDS MODERNIZATION PLAN: 2005

cc: Mr. Kurt W. Bauer, Chairman, MCAMLIS Steering Committee
Mr. John La Fave, Milwaukee County Land Information Officer

MILWAUKEE COUNTY

UPDATE TO LAND RECORDS MODERNIZATION PLAN: 2005

John L. La Fave
Milwaukee County Land Information Officer
and Register of Deeds

**Adopted by the Milwaukee County Automated Mapping and
Land Information System (MCAMLIS) Steering Committee
July 11, 2006**

I. EXECUTIVE SUMMARY

A. Identification and Contact Information

Mr. John LaFave
Milwaukee County Land Information Officer
Milwaukee County Courthouse
901 N. 9th Street
Milwaukee, WI 53233
Telephone: 414-278-4011
Fax: 414-223-1257
Electronic Mail Address: jlafave@milwcnty.com

Mr. William Shaw
MCAMLIS Project Manager
Milwaukee County City Campus
2711 W. Wells Street
Milwaukee, WI 53208
Telephone: 414-278-2176
Fax: 414-223-1982
Electronic Mail Address: bill.shaw@milwcnty.com

B. Participants in the Planning Process

On February 15, 1990, the Milwaukee County Board of Supervisors adopted SEWRPC Community Assistance Planning Report No. 177, Feasibility Study for a Milwaukee County Automated Mapping and Land Information System, October 1989 (hereinafter referred to as the “plan”). This plan update, finalized in 2006, is intended to, expand, and extend the plan and subsequent updates. The original plan, which proposed the development of an automated mapping and land information system for Milwaukee County, was prepared by the staff of the Southeastern Wisconsin Regional Planning Commission (SEWRPC) under the direction of an Advisory Committee comprised of representatives of the City and County of Milwaukee, the 18 suburban cities and villages within Milwaukee County, the Milwaukee Metropolitan Sewerage District, the Wisconsin Energy Corporation (now doing business as We Energies), the Wisconsin Gas Company (now doing business as We Energies), and the Wisconsin Bell Telephone Company (now AT&T).

The Milwaukee County plan, as adopted by the County Board, is believed to be unique within Wisconsin in that it created a public-private partnership that would jointly fund and develop the automated mapping system. Accordingly, a cooperative agreement was executed in November 1990, establishing the Milwaukee County Automated Mapping and Land Information System, known by the acronym MCAMLIS. Milwaukee County, the Milwaukee Metropolitan Sewerage District, Wisconsin Bell Telephone Company, the Wisconsin Electric Power Company, and the Wisconsin Gas Company all executed the agreement. The agreement provided for the creation of a Steering Committee with representatives from the County and City of Milwaukee, the suburban cities and villages

within Milwaukee County, the Milwaukee Metropolitan Sewerage District, and the private utilities operating within the County.

The 2005 update of the Milwaukee County Land Records Modernization Plan was prepared under the direction of the MCAMLIS Steering Committee, whose membership includes the following:

Kurt W. Bauer, Chairman.....	Milwaukee County Surveyor
John L. La Fave.....	Register of Deeds and Land Information Officer
John M. Bennett	Engineer, City of Franklin
	representing the 18 suburban communities
Kevin S. Anderson.....	Design Area Manager, AT&T
Linda J. Seemeyer.....	Director, Department Administration Services
George A. Torres.....	Director, Department of Transportation and Public Works
Nancy A. Olson.....	Enterprise Information Manager, City of Milwaukee
Donald R. Nehmer, Jr.....	Capital Program Business Manager,
	Milwaukee Metropolitan Sewerage District
John C. Place.....	Manager, Maps & Records, We Energies
Donald L. Coe.....	Supervisor, Facilities Location, Customer Operations, We Energies

C. Summary of Plan and Status of Implementation

This update to the plan is intended to provide County and local officials, State agencies, private entities, and other interested parties with basic knowledge of Milwaukee County's continued efforts to modernize its land records system. Since adoption of the original plan in 1990, Milwaukee County has diligently pursued the creation of a parcel-based, multi-purpose, multi-user automated mapping base as the foundation for land information systems. The initial focus was on the establishment of a geodetic framework, the preparation of large-scale planimetric and topographic base maps, and the preparation of companion large-scale maps. This mapping effort was completed in or converted to digital form and has been integrated into a computerized data base now serving Milwaukee County. This update document summarily describes how Milwaukee County intends to continue to build on that data base over the next five years and to expand our cooperation with local units of government in the County and with participating utility organizations operating in Milwaukee County in pursuing important land records modernization initiatives.

D. Milwaukee County Land Information Website

[Milwaukee County Register of Deeds](#)

The Register of Deeds office provides for fee based internet access to recorded documents. Mapping information compiled in Milwaukee County is available through numerous municipal and regional websites but MCAMLIS data is not, as yet, available through a countywide land information public access website.

E. Websites Serving Land Information For Municipalities within Milwaukee County

[City of Franklin](#)

[City of Cudahy](#)

[Village of Greendale](#)
[City of Greenfield](#)
[City of Milwaukee](#)
[City of Oak Creek](#)
[City of South Milwaukee](#)
[SEWRPC Map Server](#)
[City of West Allis](#)

II. LAND INFORMATION PLAN

This document is intended to update and extend the original plan as adopted in 1990 for the creation and use of an automated mapping and land information system for Milwaukee County. This document is also intended to provide county and local officials, state agencies, private entities, and other interested parties with information about the objectives, status, and proposed continuing development of that system within Milwaukee County. Methods and procedures that were detailed in earlier Milwaukee County plans have been incorporated into standard practice and are no longer fully articulated as part of the current plan. These earlier plans, dating back to 1990, provide a complete documenting of the foundational elements addressed by the MCAMLIS project and may be obtained from the MCAMLIS Project Manager.

A. Goals and Objectives

The partially completed automated mapping and land information system for Milwaukee County has resulted in substantial improvements in both efficiency and effectiveness in the acquisition, conversion, storage, retrieval, and use of information about the land area which comprises Milwaukee County. Given the current status of the system, the goals and objectives for the continued development, enhancement, and use of the system are as follows:

1. Complete the development of an Enterprise Address System (EAS) capable of integrating process, data, technology and organizational components across Milwaukee County municipalities, law enforcement, emergency management and development interests. This goal strives to remedy current operational constraints while enhancing access to and usability of street name and address data countywide;
2. Maintain the completed horizontal and vertical survey control network including the monumentation of the U. S. Public Land Survey corners and the provision of State Plane Coordinates and elevations for those corners and ancillary monuments and benchmarks;
3. Maintain the topographic maps current; remapping areas of the County as may be required by changes in development;
4. Maintain the completed cadastral maps to reflect land subdivision plat, certified survey map and other land division activities which create new parcels or revise the boundaries and extent of existing parcels;

5. Automate the access to and maintenance of address information providing location-based, current, complete and standardized address information across the enterprise via web-based technologies;
6. Complete the mapping of the 100-year recurrence interval flood hazard areas within Milwaukee County, integrating the mapping into the automated land information system;
7. Ensure that the information assembled under the program is readily translatable and available for use by State, county, and municipal units and agencies of government and public utilities and by private entities, including, importantly, interested citizens. This will involve making the information available through the Internet System for viewing and retrieval of base mapping and land and land-related information;
8. Develop and integrate carefully selected attribute data having broad utility, including current land use, zoning, flood hazard, wetland, and assessment data among others.
9. *Identify, initiate, and complete projects that will utilize the \$1.00 of each \$5.00 of the fees retained locally to develop and maintain land information on the Internet, including the county's land information relating to housing in a manner that would allow for greater public access.*

More specifically the \$1 fee will be segregated and designated as a "technology fund" for ongoing modernization efforts and technology improvements to the Milwaukee County Register of Deeds Office. The chosen projects will be expected to provide faster access to, and improved delivery of, data, images, and services both within the Office and to the public over the Internet and other electronic communication media as may be appropriate.

10. Where appropriate, identify, initiate, and complete projects proposed by Milwaukee County or its constituent municipalities, agencies of the federal, state or regional government, public utilities and by private entities, including, importantly, interested citizens which would, by understanding of the MCAMLIS Steering Committee, prepare information and maps useful for meeting the needs of the County and [it's local units of government](#) and contributing toward the implementation the Wisconsin Land Information Program. Consideration of projects initiated under this objective would, likely, include, but would not be restricted to, diverse technologies and collaborative efforts e.g., those that may be required to scan and index County Surveyor plat records or as may be required to perform field data collection leading to improvements in the compilation of countywide land information asset inventories.

B. Progress Report on Ongoing Activities

As already noted, work completed to date on the development of an automated mapping and land information system for Milwaukee County has included completion of the location and re-monumentation of all U S. Public Land Survey system corners within the County, including the centers of Sections; the determination of State Plane Coordinate values based upon the North American

Datum of 1927 for the re-monumented U. S. Public Land Survey corners by high-order traverse and global positioning system surveys; the determination of the elevations of the monumented U. S. Public Land Survey corners and of ancillary monuments, the elevations being referred to the National Geodetic Vertical Datum of 1929; the completion of large scale topographic maps to National Map Accuracy Standards of the entire County; and the completion of matching cadastral maps for all of the 19 cities and villages located within Milwaukee County, an area of 242 square miles within Milwaukee County. The cadastral mapping has included the assignment of parcel identification numbers and supplementary street addresses to a significant number of buildings on parcels within the 18 suburban communities.

Products that have been developed to date include U. S. Public Land Survey corner dossier sheets for each re-monumented U. S. Public Land Survey corner within the County facilitating its use as a control survey station; control survey summary diagrams providing data on the State Plane Coordinates and elevations of all of the re-monumented U. S. Public Land Survey corners, and on the grid and ground lengths and bearings of the one-quarter section lines, the interior angles of the quarter sections, and the area of the quarter sections, together with such important information applicable as the combination scale and sea level reduction factors and the mapping angle; hard copy topographic maps and digital topographic map files; and hard copy cadastral maps and digital cadastral map files. Street address coding to individual buildings on parcels is available for more recent construction located within the 18 suburban municipalities within Milwaukee County.

The large-scale cadastral mapping to MCAMLIS standards for that area of Milwaukee County within the City of Milwaukee. The MCAMLIS Steering Committee has contracted with the City of Milwaukee to oversee the completion by the City of the needed large-scale cadastral mapping to MCAMLIS standards. The work involved the recompilation--that is, the preparation of new--cadastral maps for 40 U. S. Public Land Survey system one-quarter sections. The existing cadastral maps for these sections were so deficient that the existing maps could not be adjusted by computer manipulation to fit the horizontal control survey network and ground truth presented by the now-existing topographic maps. In addition, the existing cadastral maps for the remainder of that area of Milwaukee County within the City of Milwaukee were adjusted by the City through computer manipulation utilizing an algorithm and program developed for this specific purpose. The newly compiled and computer-adjusted cadastral maps now meet MCAMLIS standards for such mapping at a scale of one inch equals 100 feet.

The mapping of obstructions to air navigation within the safety approach zones attendant to the existing and proposed runways at Milwaukee County General Mitchell International Airport. A contract and specifications for the mapping of obstructions to air navigation within the safety approach zones attendant to the existing and proposed runways at Milwaukee County General Mitchell International Airport were developed in cooperation with the Airport Manager and Airport Engineer.

Obtained Federal copyright registration for the completed automated topographic base and matching cadastral maps. The hard copy and digital topographic and

cadastral maps produced under the MCAMLIS program have, in fact, been copyrighted. The copyright has been registered with the Federal government.

Perhaps the singularly most important initiative to be completed under the previous plan was to identify, establish, and make operational a permanent institutional structure for the management of the continuing automated mapping and land information system program, as of 2005, is now provided by the Milwaukee County Department of Transportation and Public Works.

C. New Initiatives

The work effort to be undertaken over the next five years under the MCAMLIS program will be designed to achieve the 10 goals and objectives heretofore listed. Each goal and objective lists the work proposed below.

1. A number of key goals or characteristics are identified for a County Enterprise Address System (EAS) initiative. These goals strive to remedy current operational and management constraints while also enhancing access to and usability of street name and address data countywide. They are listed below:
 - **Enterprise Support.** The EAS will be designed, deployed, and operated to support all stakeholder interests including internal County department staff and information systems as well as those of external municipalities, public agency and private partners.
 - **Automated.** The EAS will be automated in the sense that it offers stakeholders computerized access to digital street name and address data and automates the process of address data maintenance.
 - **Current.** Address data made available through the EAS initiative will be current enough to support the time sensitive needs of internal and external users and their respective business information systems.
 - **Complete and Standardized.** Street name and address data will be complete and standardized representing all jurisdictional areas of the County including external service areas.
 - **Location-based.** All street name and address records in the EAS that represent a physical location inside or immediately outside Milwaukee County (e.g., extra service area) will be spatially-enabled.
 - **Accessible.** The EAS will be accessible to all internal and external users and their information systems. This means it will provide various mechanisms for staff and public access and interfaces that facilitate data communication.
2. Maintain the completed horizontal and vertical survey control network including the monumentation of the U. S. Public Land Survey corners and the provision of State Plane Coordinates and elevations for those corners and ancillary monuments and benchmarks. Under a provision of the State statutes, the Southeastern Wisconsin Regional Planning Commission has, since 1984, served as the Milwaukee County Surveyor. The work entails the perpetuation of the corners of the U. S. Public Land Survey system which may have been subject to destruction, removal, or burial through construction or other activities, and the maintenance of

records of the surveys required for such perpetuation. The work also entails the receipt, indexing, and filing of records of all land surveys completed within Milwaukee County. The records are indexed by U. S. Public Land Survey system one-quarter Section; name of property owner; and name of land surveyor. The records are essential to the compilation and updating of the cadastral maps as well as to the conduct of public works engineering and land surveys throughout the County. Perpetuation of the U. S. Public Land Survey corners within the County is essential to the maintenance of the horizontal and vertical control survey network required for the automated mapping and land information system. The perpetuation work entails the re-monumentation of approximately 24 corners per year and the preparation of the attendant dossier sheets and control survey summary diagrams. The corner perpetuation work is done both in response to requests generated by public works and private utility construction projects and, more systematically, by periodic maintenance of the corners and attendant control survey networks within the large subareas of the County within which the preparation of updated topographic maps is scheduled. The latter may involve between 50 and 100 corners per year.

3. Maintain the topographic maps current; remapping the entire County through the period 2005 to 2008. The large-scale topographic maps that comprise an integral part of the automated mapping and land information system for Milwaukee County have been, and will continue to be, periodically updated. The new maps will meet MCAMLIS standards and will be available in both hard copy and digital format.
4. Maintain the completed cadastral maps to reflect land subdivision plat, certified survey map and other land division activities which create new parcels or revise the boundaries and extent of existing parcels. A major initiative under the continuing MCAMLIS program will be the development of a procedure for efficiently and effectively updating the completed cadastral maps. All of the records required to readily update the cadastral maps are available from the land subdivision plats and certified survey maps recorded with the City of Milwaukee Assessors Office, the County Register of Deeds and the survey records filed with the Milwaukee County surveyor. The perpetuation of the U. S. Public Land Survey system within the County and the maintenance of the attendant control survey networks by the County surveyor ensure that all land subdivision plats, certified survey maps, and other land surveys are related to common points of beginning, to a common bearing base in the form of the State Plane Coordinate grid, and are adjusted to the ground lengths of the one-quarter section lines as determined by the horizontal control surveys. This permits the cadastral maps to be readily updated by the direct entry of the geometry provided by the land subdivision plats, certified survey maps, and other survey records.
5. Convert existing site addresses maintained as part of the county parcel mapping system into the Enterprise Address System (EAS). Update converted site addresses to reflect current conditions and to ensure consistency with street names and address ranges.

Likewise, convert site addresses for the City of Milwaukee and incorporate these into the countywide, Enterprise Address System (EAS). Implement processes and tools (web-based) to automate the posting of City of Milwaukee and other municipalities site address updates into the countywide, Enterprise Address System.

6. Complete the mapping of the 100-year recurrence interval flood hazard areas within Milwaukee County, integrating the mapping into the automated land information system. A major work effort will entail the completion of the mapping of the 100-year recurrence interval flood hazard areas within Milwaukee County integrating the mapping into the automated land information system. The Regional Planning Commission has completed comprehensive watershed plans for the five watersheds which lie partly or wholly within Milwaukee County. These plans provide data on the flood flows and stages of all of the major streams and water courses within Milwaukee County. The data are based upon hydrologic and hydraulic simulation modeling and consider both existing and planned land use development patterns within the watersheds. These watershed plans, however, have been developed over a period of time extending from 1966 through 1987. Therefore, the proposed mapping will require that the watershed plan data be updated as may be necessary to reflect changes in the existing and planned land use patterns, in the hydrologic capacity of the stream channels, and in the attendant stream flows and stages. Stage data for the 100 year recurrence interval flood compiled from the watershed planning work--those data being based upon the vertical datum utilized in the MCAMLIS program--can then be readily transferred to the large-scale topographic maps and digitally integrated into the cadastral maps, thus providing flood hazard data by parcel. This work, because of its magnitude and complexity, and the need to have the flood flow and stage data approved by the Wisconsin Department of Natural Resources and the Federal Emergency Management Agency, will have to be scheduled over a three to five year period.
7. Ensure that the information assembled under the program is readily translatable and available for use by State, county, and municipal units and agencies of government and public utilities and by private entities, including, importantly, interested citizens. This will involve making the information available through Web-based Internet and Extranet Systems for the retrieval of base mapping and land and land-related information. An example of an undertaking in this area will be the development and coordination of an integrated Milwaukee County Master Street Address Guide (MSAG) as a tangible outcome of our EAS objective. An effort will be made to ensure that the information assembled under the program is readily translatable and widely available for use over the internet. Special care will be undertaken to ensure the widest access and publication of the data while maintaining the strict integrity of the data copyright interests.
8. Develop and integrate carefully selected attribute data having broad utility, including current land use, zoning, flood hazard, wetland, and assessment data among others. An initiative to be undertaken will include the development and integration of carefully selected attribute data having broad utility. Such data

could include current land use, zoning, soils and soil boring, flood hazard, wetland, and tax assessment data, among others. It could also include the integration of aerial orthophotography taken periodically by the Southeastern Wisconsin Regional Planning Commission into the land information system. The types of attribute data to be developed and integrated would be selected and scheduled in priority order by the MCAMLIS Steering Committee. It should be noted, in this respect, that soils data would probably not be considered for such integration since much of the County is covered by soils that have been disturbed and for which, therefore, no detailed operational soil survey data and meaningful interpretative information are available.

Identify, initiate, and complete projects that will utilize the \$1.00 of each \$5.00 of the fees retained locally to develop and maintain land information on the Internet, including the county's land information relating to housing in a manner that would allow for greater public access.

9. The Milwaukee County Land Information Officer, who is also the Milwaukee County Register of Deeds, has developed, and will continue to update and expand a list of projects in keeping with the spirit and requirements of s.66.1001(2)(b) of the *Wisconsin Statutes* for the development and maintenance of a computerized indexing of the County's land information records relating to housing in a manner that would allow for greater public access. Such projects may include the acquisition of specialized computer hardware to accomplish the digital conversion of oversized maps and records and the modernization of both the hardware and software currently utilized by the Register of Deeds Office to carry out the optical imaging of land records related documents. Additional projects, such as the automation of tax lien records and the recording of mortgage satisfactions and similar types of documents that would serve to automate existing hardcopy County records related to housing identified under the "Guidelines for the Use of the Additional \$1.00 Retained by the County" as promulgated by the Office of Land Information Services, Wisconsin Department of Administration, may also be undertaken as determined to be appropriate and useful.

Additional efforts will be undertaken to streamline the flow of materials through the Register of Deeds Office including both efforts to achieve faster throughput of material and through "redesign" of processes to provide for better integration of material handling and information handling tasks. Efforts will also be directed toward investigating intergovernmental cooperation initiatives e.g. Diggers Hotline, as an example in providing better overall service to the taxpayers and citizens and to the private companies that depend upon access to the records under the responsible jurisdiction of the Register of Deeds.

10. Where appropriate, identify, initiate, and complete projects proposed by Milwaukee County or its constituent municipalities, agencies of the federal, state or regional government, public utilities and by private entities, including, importantly, interested citizens which would, by understanding of the MCAMLIS Steering Committee, prepare information and maps useful for meeting the needs of the County and [it's local units of government](#) and contributing toward the implementation the Wisconsin Land Information Program.

D. Custodial Responsibilities

As already noted, the Southeastern Wisconsin Regional Planning Commission was originally given the custodial responsibilities for the Milwaukee County automated mapping and land information system. Although this assignment of custodial responsibility was envisioned in the original plan to be temporary, the Commission has, until January 2005, fulfilled the responsibility at the specific request of the Milwaukee County Board of Supervisors and the County Executive since adoption of the initial plan in 1990.

As of January 2005 Milwaukee County Government has assumed the MCAMLIS custodial responsibilities on a permanent basis and now provides for MCAMLIS data distribution and MCAMLIS Project Management.

In considering a reassignment of custodial responsibilities, the Milwaukee County surveyor responsibilities remains with the Regional Planning Commission. These responsibilities include the perpetuation of the U. S. Public Land Survey system within the County; the maintenance of the related horizontal and vertical control survey networks; and the recording and indexing of land surveys conducted within the County. In addition, responsibilities for periodically obtaining orthophotography remain with the Regional Planning Commission as an integral part of its overall comprehensive regional planning program.

All other custodial functions, however, including maintenance of the cadastral maps; the street address coding; the development and integration of additional attribute data; and efforts to ensure that information assembled under the program is readily translatable and available for use now rest with Milwaukee County Government.

E. Foundational Elements and Statewide Standards

1. Communication, Educational Training, and Technical Assistance

Using Internet system technology, the Milwaukee County Land Information Officer will subscribe to, and participate in the Wisconsin clearinghouse and technical assistance list service maintained by the Wisconsin Land Information Program.

As access to the MCAMLIS data is provided through web-based services, provisions will be made with an educational agency, such as Milwaukee Area Technical College for training of potential users. Alternatively, MCAMLIS may develop Internet access to educational materials in order to further facilitate the public's knowledge about and use of the MCAMLIS data.

2. Geographic Reference Frameworks

- Integration of U. S. Public Land Survey and State Plane Coordinate Systems

As already noted, the densification of the National Geodetic Survey control network within the County was completed by MCAMLIS early in its history. Indeed, much of this work was completed before the formation of the creation of the Wisconsin Land Information Program.

The horizontal control survey network within Milwaukee County consists of 1,065 U. S. Public Land Survey corners, including the centers of the sections, thus placing a monumented control survey section of known position on both the U. S. Public Land Survey system and State Plane Coordinate system, and of known elevation, at approximately one-half mile intervals throughout the County. Substantial concrete monuments with brass caps mark the corner locations. The brass caps are inscribed with the corner notation--U. S. Public Land Survey system quarter-section, township and range. The monuments placed are referenced by ties to at least four witness marks and a control survey station recovery form or dossier sheet--is provided for each corner. The dossier sheet provided for each corner includes a sketch showing the monument erected in relation to the salient features of the immediate vicinity, all witness monuments set together with ties, the State Plane Coordinates of the corner, its U. S. Public Land Survey system identification, the elevation of the monument, the location and elevation of one or more reference benchmarks, and a certificate prepared and executed by the County Surveyor setting forth the history of the location and monumentation of the corner.

The U. S. Public Land Survey corners have been placed on the State Plane Coordinate system by high-order traverse and global position system surveys. The coordinates are expressed in terms of the Wisconsin Plane Coordinate System, South Zone, North American Datum of 1927. The densified survey control network was connected to and integrated with all of the monumented stations of the national control survey network, as established by the U. S. Coast and Geodetic Survey--the predecessor agency to the National Geodetic Survey and by the U. S. Lake Survey of the U. S. Army Corps of Engineers. The horizontal control surveys meet or exceed the specifications for Third-Order, Class I, accuracy standards as established by the National Geodetic Survey.

Elevations were established for all of the monumented U. S. Public Land Survey system corners and for ancillary reference benchmarks. The vertical control survey network so created was based upon the National Geodetic Vertical Datum, 1929 adjustment. All level surveys conducted met or exceeded the specifications for Second-Order, Class II, accuracy standards as established by the National Geodetic Survey.

As part of the precise leveling operations, equations were established which permit the elevations referenced to the National Geodetic Vertical Datum to be converted to City of Milwaukee Datum and to the International Great Lakes Datum.

The specifications governing the creation of geodetic reference framework within the County required the preparation of control survey summary diagrams showing the exact grid and ground lengths and grid bearings of the exterior boundaries of each U. S. Public Land Survey quarter-section; the area of each quarter section; all monuments erected; the number of degrees, minutes and seconds on the interior angles of each quarter-section; the State Plane Coordinates of all quarter-section corners, together with their Public

Land Survey system identification; the benchmark elevations of all monuments set; and the basic National Geodetic Survey control stations utilized to integrate the Public Land Survey system corners into the horizontal geodetic control system, together with the coordinates of the national stations. The angle between geodetic and grid bearing is noted on each diagram as is the applicable combination sea level and scale reduction factor.

The Regional Planning Commission has developed algorithms which can be used to convert the control station coordinates from the North American Datum of 1927 to the North American Datum of 1983, 1991 adjustment; and the benchmark elevations from the National Geodetic Vertical Datum of 1929 to the National Geodetic Vertical Datum of 1988. The conversion algorithms maintain the underlying accuracies and precisions of the horizontal and vertical control networks.

- Topographic Base Maps

Also as already noted, the MCAMLIS program is in the process of completing the preparation of one inch equals 100 feet scale, 2 foot contour interval topographic maps for all of the 242 square miles of land area within Milwaukee County. These maps were prepared to National Map accuracy standards and are available in both hard copy and digital format. The topographic maps accurately record the basic geography of the area mapped.

In addition to showing the usual contour information, spot elevations, planimetric and hypsometric detail, and State Plane Coordinate system grid ticks, the maps show in their correct position and orientation, all U. S. Public Land Survey quarter section lines and corners established in the control surveys used as a framework for the mapping. A combination sea level and scale reduction factor, and the angle between geodetic and grid bearing are noted on each map sheet, as is the equation between any local datum and the National Geodetic Vertical Datum.

- Quadrangle Boundaries

Since the topographic maps prepared under the MCAMLIS program are superior to the U. S. Geological Survey quadrangle maps for county, municipal and utility planning, engineering, and land information system applications, the MCAMLIS program does not intend to prepare digital map representations of the quadrangle map boundaries.

- Image Bases

The MCAMLIS program does not intend to acquire digital raster graphics files prepared from U. S. Geological Survey. Larger scale and higher resolution digital raster images are available under the MCAMLIS program.

The MCAMLIS program has available to it in both hard copy and digital format the aerial orthophotography completed by the Southeastern Wisconsin Regional Planning Commission initially in the spring of 1995 and has been obtained every five years thereafter. The most recent orthophotography, obtained in 2005 is available in color and compiled for use at a scale of one

inch equals 100 feet with a 6" pixel resolution. and meets National Mapping Accuracy Standards at that scale.

The MCAMLIS program does not intend to acquire digital orthoquad image datum available from the Federal government. These images are available at map scales too small to be useful within urban and urbanizing areas such as Milwaukee County. The digital aerial orthophotography available to the MCAMLIS program is in every way superior and more suitable to the needs of the greater Milwaukee area.

The MCAMLIS program does not intend to acquire digital line graph files prepared from U. S. Geologic Survey quadrangle maps. The MCAMLIS topographic maps provide the larger map scales and higher resolutions needed within urban and urbanizing areas such as Milwaukee County.

The MCAMLIS program does not intend to acquire satellite imaging available either from the Federal government or from Russian sources. The large-scale hard copy and digital aerial orthophotography available to the MCAMLIS program is superior to satellite imagery for all purposes within Milwaukee County.

The MCAMLIS program may consider acquiring and/or cost sharing programs e.g., to obtain high resolution oblique or LIDAR photo-imagery. Applications and use of this type of imagery are considered useful for purposes of planning, in-office field inspection and change detection. Further investigation of this will be undertaken as need and interest is brought to the attention of the MCAMLIS Steering Committee.

- Digital Terrain Models

The MCAMLIS program will acquire and distribute a digital terrain model (DTM) that can be used to assist in the development of triangulated irregular networks used in contour mapping. The 2005 through 2008 topographic mapping update program is expected to provide this data to the MCAMLIS Steering Committee.

- Adherence to Standards

The Wisconsin Land Information Program has prepared specifications and guidelines for the densification of the Wisconsin High Accuracy Reference Network (HARN) using global position system technology. This standard is not relevant to the MCAMLIS program, which has completed densification of the survey control network within the County. The MCAMLIS program, as already noted, utilizes, and intends to continue to utilize, the North American Datum of 1927 as the basis for horizontal survey control. No benefit cost studies have been undertaken that would indicate that the use of either the North American Datum of 1983, or the North American Datum of 1983 as modified by the 1991 Wisconsin High Accuracy Reference Network would provide any tangible benefits. In this respect, it should be noted that the Federal government is already considering the promulgation of a new North American Datum for scientific and military applications. A more rational national and State policy would be to follow British practice and maintain a

stable geodetic datum for civil applications, while changing and refining datums as necessary for military and scientific applications.

The perpetuation of the U. S. Public Land Survey system under the MCAMLIS program meets or exceeds good professional standards for land surveying and provision of related documentation.

- Custodial Responsibilities and System Requirements

As already noted, Milwaukee County Government as of 2005 is responsible for the custody of the MCAMLIS system data and for the distribution of these data to users.

MCAMLIS will continue to work with the Commission and the County Surveyor, to perpetuate the U. S. Public Land Survey system within the County and maintain the attendant control survey network. Under contract to the MCAMLIS Steering Committee, the Commission will be used to maintain the topographic base maps current. The designation of areas to be remapped will be determined by the MCAMLIS Steering Committee, acting in response to requests from local municipalities, the Milwaukee Metropolitan Sewerage District, and the County.

3. Parcel Mapping

Also as already noted, hard copy and digital cadastral--real property boundary line--maps have been completed under the MCAMLIS program for all of Milwaukee County. The completed maps thus cover 100 percent of the total area of the County. The cadastral maps have been prepared as companion overlays to the topographic base maps, are at a scale of one inch equals 100 feet, are referenced to both the U. S. Public Land Survey and State Plane Coordinate systems, and are based on a common geodetic control survey network, all as heretofore described. The cadastral maps meet accuracy standards long promulgated by the Regional Planning Commission for use within the Southeastern Wisconsin planning region. Those standards predate the creation of the Wisconsin Land Information Program and have proven by use over a period of almost four decades to be sound.

The cadastral maps are topologically structured and all ownership parcels are recognizable as closed polygons by the associated computer software programs. The cadastral maps identify in their proper location, orientation, and extent, all public street and alley rights-of-way, railway rights-of-way, major cross country utility easements, and major sanitary sewer and storm water drainage easements. The cadastral maps contain parcel identification numbers that provide the linkage to associated non-graphic attribute data. The parcel identification scheme is compliant with Wisconsin Land Information Program standards.

Also as already noted, the maintenance of the cadastral maps current is a major initiative proposed under this updated land records modernization plan.

Also as already noted, street addresses are being assigned to major buildings located on individual parcels and the completion and maintenance of these

among other major address coding initiatives being proposed under this updated Land Records Modernization Plan.

4. Parcel Administration

Milwaukee County intends to integrate its land ownership registration records including its tract index and tax assessment data into the MCAMLIS land information system. The Milwaukee County Register of Deed's office has installed optical imaging equipment for the storage, retrieval, and indexing of real estate documents. The Milwaukee County Register of Deeds acts as the County Land Information Officer.

5. Public Access

All of the data assembled to date under the MCAMLIS program is available for use under policies established by the MCAMLIS Steering Committee. As already noted, expansion of opportunities for public access is another initiative proposed under the updated Land Records Modernization Plan.

6. Additional Attribute Data: Zoning, Soils, Wetlands, Administrative Boundaries, Address by Block Face

It is the intent of the MCAMLIS program, as heretofore indicated in this plan, to compile additional attribute data and link such data to the geographic locations identified by the parcel identifiers. Such data will include existing land use, zoning, flood hazard, wetlands, and tax assessment data. Soils will not be included for the reasons heretofore given.

The MCAMLIS cadastral maps capture County and minor civil division boundaries and are amenable to the ready addition of special purpose boundaries, such as utility districts, legislative districts, zoning districts, tax increment financing districts, school districts, watersheds and sub-watersheds, and similar geographic units. The cadastral maps permit the establishment of a complete system of public street and highway centerlines within the County and the identification of street addresses by block faces.

F. Integration and Cooperation

The MCAMLIS program seeks to achieve cooperation between the various levels, units and agencies of government and private utilities operating within Milwaukee County. Indeed, the MCAMLIS program is founded in a formal cooperative arrangement between the County, the Milwaukee Metropolitan Sewerage District, and the three private utilities operating within the County. That arrangement is expanded through the medium of the MCAMLIS Steering Committee to include the City of Milwaukee and the 18 suburban units of government within Milwaukee County. Milwaukee County staffs the MCAMLIS Steering Committee. This arrangement ensures the use of sound and mutually acceptable technical standards and procedures in the MCAMLIS program, the dissemination of MCAMLIS data to municipal and utility users, and the scheduling of work elements in accordance with the perceived needs of the County agencies, Milwaukee Metropolitan Sewerage District, City of Milwaukee, and the suburban cities and villages within the County.

The past and present institutional structure has worked well in the creation of the foundational elements for the Milwaukee County automated mapping and land information system, and in the initial use of MCAMLIS data over a period of more than a decade.

G. Technical Standards Not Directly Associated with Foundational Elements

The MCAMLIS Steering Committee has been responsible for the review of all technical standards, including those associated with the foundational elements.

Technical standards not directly associated with such elements have included data distribution and interchange, metadata standards, control procedures and optical imaging of public records, among other standards.

Administrative Standards not Associated with Foundational Elements

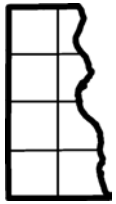
This plan is intended to represent an agreement between the MCAMLIS program and the Wisconsin Land Information Program administered by Wisconsin State Department of Administration (DOA). The agreement is intended to the extent practicable to further the objectives of the Wisconsin Land Information Program as embodied in the enabling State legislation. In order for the plan to be accepted by DOA, the DOA and the MCAMLIS Steering Committee hereby agree and consent as follows:

1. Milwaukee County and the MCAMLIS Steering Committee agree to observe and follow the Wisconsin Statutes relating to the Wisconsin Land Information Program and other relevant programs;
2. Milwaukee County and the MCAMLIS Steering Committee agree to permit the Wisconsin Department of Administration access to the books, records, and products for inspection and audit, including unannounced inspections and audits by DOA;
3. Milwaukee County and the MCAMLIS Steering Committee agree to complete a WLIP Survey as may be conducted from time to time;
4. Milwaukee County and the MCAMLIS Steering Committee agree to update this plan every 5 years and in the interim if the plan should change;
5. Milwaukee County and the MCAMLIS Steering Committee understand that the Wisconsin Department of Administration agrees to provide assistance to the county including an on-line Technical Assistance Service;
6. Milwaukee County and the MCAMLIS Steering Committee understand that the Wisconsin Department of Administration intends to distribute an inventory of land information and land information systems throughout the State;
7. Milwaukee County and the MCAMLIS Steering Committee understand that the development of this plan and its implementation will convey certain benefits on the County and on local governments within the County, including continued eligibility for program funding through grants administration by the Wisconsin Department of Administration. Milwaukee County, and the

MCAMLIS Steering Committee further understand that a peer review process will be used to assess plan acceptability;

8. Milwaukee County and the MCAMLIS Steering Committee understand that the Wisconsin Department of Administration hereby agrees to review funding requests and to provide guidance to the County and local governments within the County with respect to the development of such requests;
9. Milwaukee County and the MCAMLIS Steering Committee understand that the Wisconsin Department of Administration hereby agrees to make available an annual report regarding the status of the Wisconsin land information program and related activities.

JLL/wcs
8/1/06
1999 Update - LRMP



MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Department of
Transportation and Public Works
2711 West Wells Street, Room 427
Milwaukee, Wisconsin 53208-3509
Telephone (414) 278-2176

MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: William C. Shaw, MCAMLIS Project Manager

DATE: June 29, 2006

SUBJECT: Geo Database Migration Project: Address and Street Centerline Integration leading to a Countywide Master Street and Address Guide (MSAG)

BACKGROUND

In its meeting held on October 8, 2002, the MCAMLIS Steering Committee approved a report prepared by Spatial Data Systems Inc., assessing the accuracy and currency of the City of Milwaukee address database and the steps that would need to be taken to render that database compatible with the MCAMLIS street address database. An estimated cost of \$149,000 was provided by Spatial data Systems, Inc., for this undertaking.

Subsequently, MCAMLIS Staff in a report to the Committee dated May 19, 2003, provided an assessment of the **WORK EFFORT REQUIRED FOR THE COMPLETION OF A MCAMLIS STREET ADDRESS DATABASE**. This assessment outlined an approach and refined the estimated resources required to be \$142,000.

At its meeting held on November 18, 2003, the MCAMLIS Steering Committee tabled consideration of this project, along with two related matters, until such time as the, then pending, County Geodatabase needs assessment was complete. The MCAMLIS Steering Committee has not taken this matter up directly since it was tabled.

During the intervening period, a seamless Geodatabase format has been implemented and two of the three sister projects i.e.; creation of a seamless cadastral map environment and implementation of a transactional cadastral map maintenance capability, have been put in-place for the suburban Milwaukee County communities. At its February 7, 2006, meeting the MCAMLIS Steering Committee approved a joint City of Milwaukee and MCAMLIS solution to provide for resources required to maintain the current MCAMLIS cadastral data maintenance in concert with the City of Milwaukee.

This action now provides an opportunity to finally fully integrate the MCAMLIS Address and Street Centerline with that of the City of Milwaukee and to provide for a countywide address database which was envisioned by the Committee, in 1996, when the Committee authorized SEWRPC to proceed in establishing the current MCAMLIS address database.

It also affords us an opportunity to re-consider the earlier proposals in light of improvements in technology and to a great extent, recent demands placed on the importance of this data for critical management of county assets and its role in providing for public safety, among others. In this regard, it is appropriate to re-calibrate our overall objectives and to declare our vision and the action steps required to attain them.

VISION

It is clear that many County and municipal operations and services use addresses as a form of identification and location. Given this, it makes sense that street name and address data be standardized and managed across County government and in concert with external business partners to more efficiently and effectively deliver government

services. When address location is expressed and maintained in different ways without a common framework, decision making is impeded as integration of background information becomes limited or impossible. Addresses more than any other location referencing feature, can be a powerful integrating factor that permits local governments to relate complementary information. As such, it requires enterprise thinking to serve cross-departmental and jurisdictional (regional) needs.

As such, the solution also seems evident – an enterprise approach to this key information element is needed. An enterprise approach takes into account how creation, management, and use of address data effects the whole organization, not just individual agencies. It establishes a coordinated framework, an ‘Enterprise Address System (EAS)’, which includes key process, data, technology, and organization components. Only when all of these components are acknowledged can the system truly respond to agency-wide and partner needs.

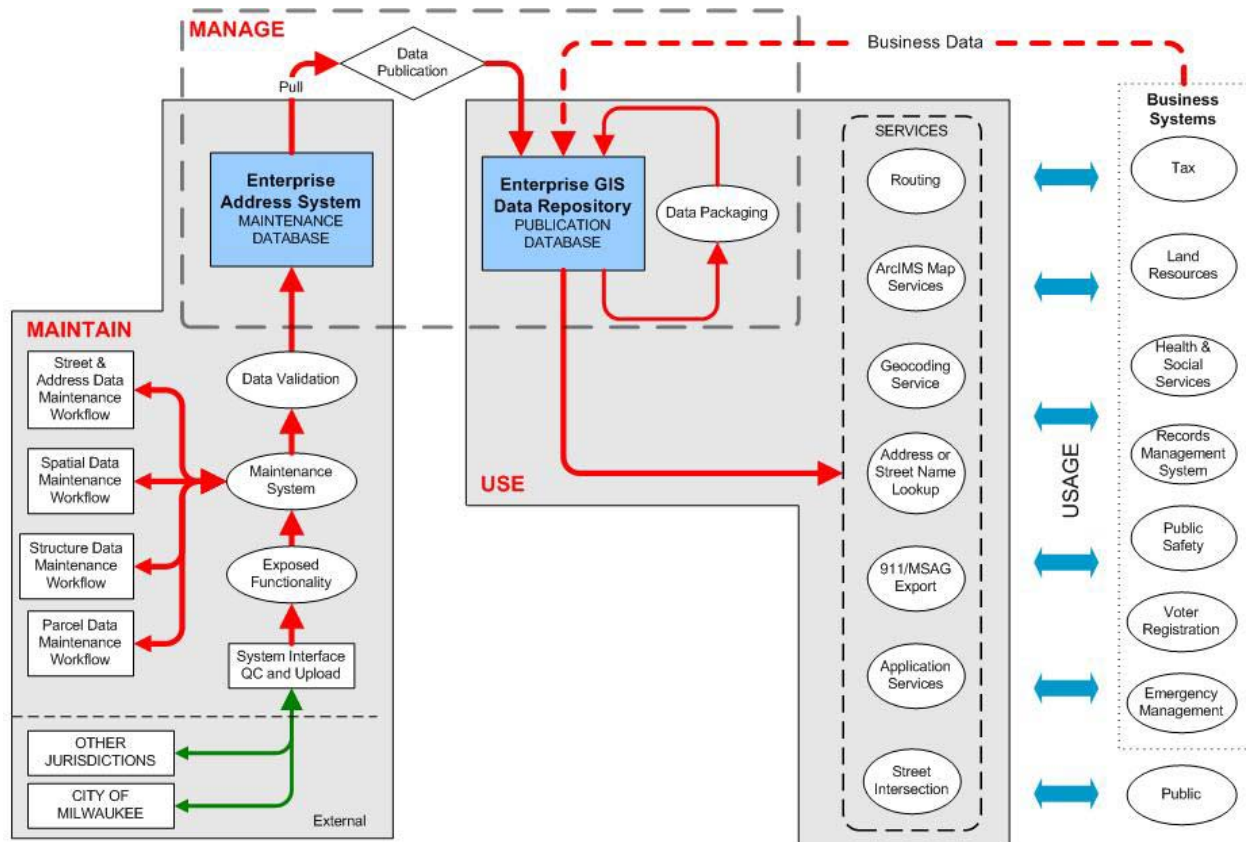
A number of key goals or characteristics are identified for a County enterprise address system. These goals strive to remedy current operational and management constraints while also enhancing access to and usability of street name and address data countywide. They are listed below with additional description provided later in this section:

1. **Enterprise Support.** The new system should be designed, deployed, and operated to support all stakeholder interests including internal County department staff and information systems as well as those of external public agency and private partners.
2. **Automated.** The system should be automated in the sense that it offers stakeholders computerized access to digital street name and address data and automates the process of address data maintenance.
3. **Current.** Address data made available through a new system should be current enough to support the time sensitive needs of internal and external users and their respective business information systems.
4. **Complete and Standardized.** Street name and address data should be complete and standardized representing all jurisdictional areas of the County including external service areas.
5. **Location-based.** All street name and address records in the new system that represent a physical location inside or immediately outside Milwaukee County (e.g., extra service area) should be spatially-enabled.
6. **Accessible.** Finally, the enterprise address system should be accessible to all internal and external users and their information systems. This means it needs to provide various mechanisms for staff and public access and interfaces that facilitate data communication.

The figure below depicts a conceptual architecture for an enterprise County address system that meets the abovementioned goals. It provides for a single, definitive source of GIS-based addresses across the County and facilitates better maintenance, publication, and use of address and related data through standard user applications and system services. It serves as the master source of normalized and standardized address formats to which all agency staff can refer when entering addresses into their respective databases.

This covers different types of addresses including those created as part of the land development process (parcel addresses), for facility asset tracking and management, and for mailing purposes, etc. It also can support sub-unit address types related to multi-unit residential, commercial, and industrial use facilities. Finally, the envisioned system includes mechanisms for departments and municipal partners to submit new or updated address information, so that the “enterprise” address database is as current as possible. Conversely, this also includes the ability to view, extract, and convert address data for use by other systems such as 911.

Figure: Conceptual Architecture for a MCAMLIS Countywide Enterprise Address System (EAS)



The benefits to the County and its partners in pursuing an enterprise approach to address data maintenance, management, and use are significant. Noteworthy benefits include:

- ✓ Reduced cost through less duplication of address data maintenance and management, more efficient staff processes, and better quality information
- ✓ Better and more reliable decisions based on better quality and current address data and data that is formatted to meet specific decision-making needs
- ✓ Improved coordination and execution of citizen services across partner jurisdictions through use of a common address system framework
- ✓ Minimized liability in dispatching emergency services through use of accurate address locations

REQUIRED ACTION STEPS

Earlier GIS planning work completed by MCAMLIS and the County to support its migration to an ArcGIS technology environment, identified a number of discrete projects to advance creation of a County enterprise address system. These projects, along with a number of other needed initiatives are listed below:

1. Migrate existing MCAMLIS digital street centerline database into ArcGIS Geodatabase format. Update the migrated Geodatabase to include missing and vacated street segments, proper street name assignments, and actual/theoretical address ranges as well as additional attribution needed for 911 MSAG update support.

2. Convert existing City of Milwaukee street centerline and address range data layers into an ArcGIS format and integrate with the countywide street centerline Geodatabase. Implement processes and tools to automate the posting of City of Milwaukee street updates into the countywide street centerline Geodatabase.
3. Convert existing site addresses maintained as part of the County parcel mapping system into the migrated digital street centerline Geodatabase to establish an overall, Enterprise Address Geodatabase. Update converted site addresses to reflect current conditions and to ensure consistency with street names and address ranges.
4. Create site addresses for the City of Milwaukee and incorporate into the countywide, Enterprise Address Geodatabase. Implement processes and tools to automate the posting of City of Milwaukee site address updates into the countywide, Enterprise Address Geodatabase.
5. Create web-based user application that allows County and municipal partner staff and the public to browse, query, and report on countywide street and address information in a spatial format.
6. Create standard web services or equivalent data access application that allows County and municipal partner information systems (e.g., 911/CAD, Permitting, etc.) to directly lookup and validate official street name and address information.

ESTIMATED COST

The total cost for the project, as described herein, is estimated to be \$272,000. This cost is comprised of the following components:

- | | | |
|----|---|-----------|
| 1. | Migrate and update the current MCAMLIS street centerline data to ArcGIS GeoDatabase format. | \$16,500 |
| 2. | Migrate and update the City of Milwaukee street centerline data to ArcGIS GeoDatabase format: | \$16,500 |
| 3. | Convert existing MCAMLIS site (Structure) addresses to the Enterprise Address Geodatabase : | \$35,000 |
| 4. | Create site addresses for the City of Milwaukee addresses to the Enterprise Address GeoDatabase: | \$74,000 |
| 5. | Create web-based user application that allows County and municipal partner staff to browse, query, report and update on countywide street and address information in a spatial format. | \$65,000 |
| 6. | Create standard web services or equivalent data access application that allows County and municipal partner information systems (e.g., 911/CAD, Permitting, etc.) to directly lookup and validate street name and address information | \$65,000 |
| | | \$272,000 |

FISCAL CONSIDERATIONS

Adequate funds are available to commit to this project.

There is an unreferenced 2005 year-end MCAMLIS balance of over \$400,000

MCAMLIS 2006 revenues are approaching budgeted expectations

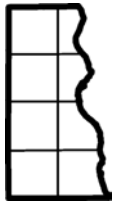
RECOMMENDATION

Based upon staff assessment the following recommendations are made to the Steering Committee:

- It is recommended that the Steering Committee authorize the initiation of the project described herein with the exception of **required Action Step 6**. This step will be included as part of a proposed project establishing a Countywide MCAMLIS Land Information Access Website. The steps 1-5 can be carried out independent of the web-enabling software and hardware components and easily align their deliverables within the original scope and intent of prior project estimates that have been reviewed by the MCAMLIS Steering Committee.
- It is recommended that the Steering Committee authorize the expenditure of \$207,000 from MCAMLIS funds to carry out the project.

- It is recommended that the project staff be directed to secure the execution of Professional Services Contract(s) in accordance with Milwaukee County Procurement Policies and Procedures as may be required to complete this work.

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MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Department of
Transportation and Public Works
2711 West Wells Street, Room 427
Milwaukee, Wisconsin 53208-3509
Telephone (414) 278-2176

August 9, 2006

Mr. Philip C. Evenson
Executive Director
Southeastern Wisconsin Regional Planning Commission
W239N1812 Rockwood Drive
Waukesha, WI 53187-1607

Dear Mr. Evenson:

The MCAMLIS Steering Committee is in receipt of the Southeastern Wisconsin Regional Planning Commission's (SEWRPC) July 6, 2006 Invoice No. 27699 in the amount of \$270,000 regarding an agreement entered into between this Committee and the SEWRPC governing the acquisition of updated large-scale topographic base map files and six-inch pixel, color, digital orthographic files for Milwaukee County.

As you know, this invoice requests payment for work carried out by the photogrammetric engineering firm engaged by the SEWRPC to assist with this project in accordance with the payment schedule set forth in the Agreement entered into on December 22, 2004.

In reference to the Agreement Section VIII. Method of Compensation, there appears to be a significant difference between the actual invoicing provided to the Committee for payment and the payment schedule set forth in the December 14, 2004 Agreement. As MCAMLIS Project Manager, acting on behalf of the Committee I have researched the history of this Agreement and have become aware that the SEWRPC is presenting invoices based upon a more recent 'draft' adjustment to the aforementioned payment schedule.

I am also aware, that the adjustment to the original payment schedule was justified as a means of accommodating cash flow concerns expressed by Milwaukee County Department of Administrative Services (DAS) related to the large upfront costs of this program. As this is an important consideration, it is equally important that the MCAMLIS Steering Committee be aware of program performance with regard to discrepancies existing between the agreed to schedule of deliverables as set forth in the Agreement and the most recent STATUS OF THE MCAMLIS 2005-2006 TOPOGRAPHIC MAPPING PROJECT, dated July 20, 2006. This report was produced by the SEWRPC Staff and forwarded to this office by Mr. Kurt Bauer, acting in his capacity as Chairman, MCAMLIS Steering Committee.

The status report acknowledges a delay in providing the MCAMLIS Committee a substantial portion of the original program deliverables. This delay is both in quantity and timing and

amounts to a delay of 6-8 months before the full volume of products, originally scheduled for delivery on July 1, 2006, will be available for delivery to the Committee. In consideration of this delay, it is acknowledged that MCAMLIS Project Management was made aware of the underlying rational and it's impact on deliverables. Even so, with an unpaid program balance of \$679,015 remaining and an apparent 6-8 month delay in expected deliverables I must consider the MCAMLIS Committee's interests with regard to the July 6, 2006 invoice as well as future program invoices. With regard to this, I recommend that SEWRPC invoices be adjusted in a manner that is consistent with the original Agreement payment schedule. In addition, I recommend that this can be equitably accomplished as set forth in the following paragraphs.

As you know, the original schedule of payments included a 10% holdback in the amount of \$321,900 payable upon acceptance and delivery of the majority complement of topographic mapping products. This delivery is scheduled to be presented to the Committee on or before July 1, 2007 and based on the current status, as reported, remains on target. In addition the SEWRPC will provide for the acceptance and delivery of those orthographic and topographic mapping products that include the Marquette Interchange and upon successful completion though July 1, 2008 would submit for payment, as specified in the original Agreement, to the MCAMLIS Committee an invoice in the amount of \$33,725.

The December 14, 2004 Agreement Section VIII. Method of Compensation allowed that through June 2006 the accumulated payments to SEWRPC would have been \$2,890,885. To date the Committee has paid a total of \$2,567,495, a difference of \$323,390. To this, I propose authorizing payment of the July 6, 2006 invoice in the amount of \$270,000 and an additional 'make up' invoice in the amount of \$53,390. I propose that SEWRPC submit this invoice to the MCAMLIS Committee at the end of the 3rd quarter 2006. The 'make up' amount would then align the remaining unpaid balance of \$355,625 with the original Agreement, as stated above, and would be in lieu of any other payment schedule previously in use by SEWRPC.

I believe that this is a reasonable approach that serves the SEWRPC as well as providing me the ability to report to the MCAMLIS Committee that there are sufficient safeguards in place to assure that this program remains on the original schedule specified in the 2004 Agreement.

In consideration of the above proposal, I hope to hear from you or your office to confirm agreement between SEWRPC and myself going forward. Should you have any questions concerning this matter, please do not hesitate to call.

Sincerely,

William C. Shaw
MCAMLIS Project Manager

WCS/wcs

Cc: Linda Seemeyer, Director, Milwaukee County DAS
Gary Drent, Fiscal & Budget Manager, Milwaukee County, DTPW/AE&ES
Greg High, Director, Milwaukee County, DTPW/AE&ES
Kurt W. Bauer, Chairman, MCAMLIS Steering Committee
File: MCAMLIS 2005 Topo Program

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